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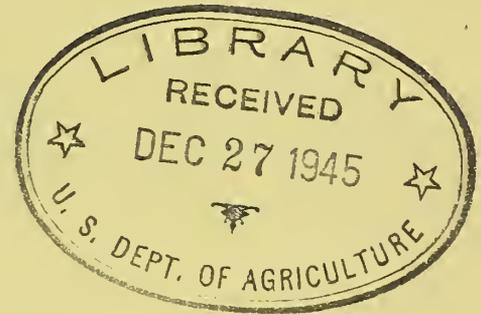
SOIL CONSERVATION LITERATURE
SELECTED CURRENT REFERENCES

V.5

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"The history of every nation is eventually written
in the way in which it cares for its soil."

- Franklin D. Roosevelt

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Mildred Benton
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PERIODICAL ARTICLESBlack Locust

Holsoe, Torkel. Fertilizing planting stock on eroded soils. Jour. Forestry 39(1):69-70, illus. Jan. 1941. 99.8 F768

Reports results of an experiment undertaken by the West Virginia agricultural experiment station on the Reymann Memorial Farms near Wardensville, W. Va. to determine the effect of the growth of different tree species on a typical pasture, the topsoil of which had been largely removed by sheet erosion. Black locust and American red pine were the trees planted.

Hopp, Henry. Growth-form variation in black locust and its importance in farm planting. Jour. Forestry 39(1):40-46, illus. Jan. 1941. 99.8 F768

"Literature cited," p.46.

"The occurrence of distinctive growth-form variation among native tree species is a matter of frequent observation. Study of such variation offers the possibility of selecting promising types for the genetic improvement of tree planting stock. In the case of black locust (Robinia pseudoacacia L.), variation in growth-form is a notable character."

Vági, Istvan. [The readily assimilable K_2O content of shifting sand soils in the Hungarian Great Plain in relation to Black Locust plantations.] Az alföldi futóhomok-talajokban előforduló, könnyön felvehető Kálium jelentősége a fásítás szempontjából. Erdészeti Lapok. 79:252-255. 1940. 99.9 Er2

"From the investigations described it appears that the K_2O content of such soils as determined by Simond's method is an insufficient indication of their suitability for Black Locust. Abs. Imp. Forestry Bur., Forestry Abs. 2(3):186. 1941.

Coastal Erosion

Cotham, J.W. Prevention of coastal erosion in Lancashire. Field 176(4580):436. Oct. 5, 1940. 10 F45

Keay, T.B. The general question of coast erosion and measures desirable for the prevention of damage caused thereby; and the drainage of low-lying lands. Inst. Munic. & Co. Engin. Jour. 67(6):[129]-145, illus. Nov. 5, 1940. L.C.

Conservation Philosophy

Bowman, Isaiah. Our better ordering and preservation. Science 93(2409):191-197. Feb. 28, 1941. 470 Sci2

Emphasizes "the careful location of conservation in the American scheme of things because of the great number of techniques that are applicable to conservation and among which it is easy to get lost, ignoring compass and route."

Glover, H.M. True symbiosis in the hills. The relationship between man, cattle, government and the land. Indian Forester 66(12):697-699, illus. Dec. 1940. 99.8 In2

Lowdermilk, W.C. "Libensraum" -- agrarianism vs. war. Catholic Rural Life Bul. 3(4):16-17, 20-21. Nov. 20, 1940.

"Dr. Lowdermilk has permitted us to reprint portions of his article, published in January 1940, American Forests, and while these concern principally man's use of the soil as it relates to soil erosion, soil and water conservation, and flood control, his findings indicate such a direct connection between the proper use of the soil and the wealth and contentment of nations that we felt justified in using as the caption of this reprint the word which has come to express national land hunger as a cause of modern war. Perhaps its use here will serve to indicate that the agrarian movement of which the National Catholic Rural Life Conference is definitely a part has a contribution to make not only to the cause of national economic and social reconstruction but to that of world peace as well."

Neuberger, R.L. Public domain. Survey Graphic 30(2):72-78, illus. Feb. 1941. 280.8 C376

An analysis of the role that government lands will, or can, play in strengthening the United States. "Today's pioneering must be planned - first, for national defense; second, to insure domestic security when the defense effort ends."

County Planning

Monin, J.D. Land use planning aids national defense. U.S. Ext. Serv., Ext. Serv. Rev. 12(2):17. Feb. 1941. 1 Ex892Ex

How the St. Charles county, Missouri community land use planning committee aided in readjustment when the United States Army selected a site of 20,000 acres near Wildon, for an ordnance plant.

O'Brien, H.R. The home folks take inventory. Country Gent. 111(2):7, 61, illus. Feb. 1941. 6 C833

Cites examples of work of county land-use planning committees which have developed from the "Mt. Weather agreement."

In 1600 counties committees of farmers, serving without pay, are examining rural life and tackling their own problems.

Ryan, Bryce. Democratic telestis and county agricultural planning. Jour. Farm Econ. 22(4):691-700. Nov. 1940. 280.8 J822

In this discussion three types of problems emanating from the agricultural planning movement are discussed; planning as an instance of social telestis (societal self-direction); the cultural consequences; and planning and community organization. "These are believed to hold direct relevance to the successful operation of the program."

Wilson, M.L. The democratic processes and the formulation of agricultural policy. Social Forces 19(1):1-11. Oct. 1940. 280.8 J823

This paper, given before the Fifth annual meeting of the Southern Sociological Society, Knoxville, Tenn., April 5, 1940, emphasizes the part

that sociology plays in the effort being made to integrate and bring into democratic relationships the ideas and aspirations of the people on the land, and the technicians and research workers.

Dams

Gallon, David. The construction of water storage dams. Tech. Gaz. N.S. Wales 28(3):3-24, illus. Dec. 1940. 275.8 N47
"References," pp. 23-24.

Defense Aspects

Kellogg, C.E. Are our soils ready for a war? Country Gent. 111(3):20, 55, 57, illus. Mar. 1941. 6 C833

Stevens, Joe. Soil conservation and American defense. Ga. Agr. 33(4): 10-11, 17, illus. Jan. 1941. 276.8 G29

We are on our way. South. Planter. 102(3):8. Mar. 1941. 6 S089

Editorial concerning the beneficial effect of war and the national defense program on Southern agriculture. It is now "moving swiftly along the road it should have taken long ago - a road leading away from the land of soil-depleting, cotton and tobacco farming to the Promised land of a diversified, well-balanced agriculture."

Earthworms

Hogg, J.E. Harnessing earthworms. Nature Mag. 34(1):9-14, illus. Jan. 1941. 409.6 N214

The story of George Sheffield Oliver, landscape engineer, who puts earthworms to work, believing that "harmonizing agricultural practices with the self-enforcing laws of nature is of outstanding importance in the cure of American agriculture.

"Bio-kinetic farmers in irrigated areas, following Dr. Oliver's methods report their enterprises flourishing with much less soil cultivation and half the water bills of neighboring orthodox farms. For them, too, are solved certain problems of soil erosion, flood control and conservation of moisture."

Evaporation

Koliasev, F.E. The evaporation of water by soil. Pochvovedenie (Pedologie) 1939(5):33-54. 1939. 57.8 P34

In Russian, with English summary.

"The evaporation of water from soil in the absence of replacement by capillary inflow is characterized by 3 stages: (a) constant rate of drying depending on external factors; (b) 2 periods of decreasing rate of drying depending on the physical condition of the soil. 3 layers take part in evaporation: the upper most diffuse layer, the horizon of evaporation, and the water-conducting layer. The sum total of evaporating moisture is composed of various categories of water which possess different mobility in soil (capillary, vaporous and film water.) In arid regions, the water regime of soil is chiefly determined by the inner

soil evaporation and the loss of vapor by diffusion. It is possible to control the expenditure of the individual categories of soil moisture e.g., by combining mellow and compact layers within the arable horizon. Pot expts. with tillage by layers showed the advantages of the latter over an entirely mellow soil, producing a 25% economy of moisture and 15-20% intensification of vapor condensation in the soil. Tilling by layers under field conditions also showed the possibility of preserving moisture. This can be accomplished with present implements or with new implements which till the soil by layers in one operation." Abs. Biol. Abs. 15(3):5860. Mar. 1941.

Perman, H.L. and Schofield, R.K. Drainage and evaporation from fallow soil at Rothamsted. Jour. Agr. Sci. [England] 31(1):74-109. Jan. 1941. 10 J822

Farm Forestry

Cope, J.A. Farm woodland owners' cooperatives. Jour. Forestry 39(2): 192-196. Feb. 1941. 99.8 F768

Cox, Guy. Forest farming profits Floridians. Land use planning leads to increased interest in gum farming. U.S. Ext. Serv., Ext. Serv. Rev. 12(1): 6, illus. Jan. 1941. 1 Ex892Ex

Donhower, Weston. A new venture in farm forestry. Amer. Forests 47(2): 67-69, 80, 94, 96, illus. Feb. 1941. 99.8 F762
Farm forestry in Indiana as a result of the cooperative farm forestry act of 1937.

Preston, J.F. Farm forestry as influenced by the soil conservation program. Jour. Forestry 39(2):91-94. Feb. 1941. 99.8 F768

Westveld, R.H. Some suggestions for improving farm forestry training. Jour. Forestry 39(2):252-255. Feb. 1941. 99.8 F768

Farm Ponds

Harper, W.A. Farm earth moving as applied to pond building. Agr. Engin. 22(1):19-24, illus. Jan. 1941. 58.8 Ag83
References, p.24.

Fire Prevention

Durand, F.V. Fire — conservation's worst enemy. Ky. Sportsman 3(3): 8-9, illus. Feb. 1941. 410 K41
The writer suggests ways and means to combat fire losses in Kentucky.

Lister, P.B. Fire control on grass ranges of the Pacific Northwest. Jour. Forestry 39(1):23-25, illus. Jan. 1941. 99.8 F768
"Literature cited," p.25.

"When white men first saw the Pacific Northwest, in the first part of the 19th century, the records generally indicate the presence of a luxuriant stand of bluebunch wheatgrass (Agropyron spicatum), Idaho fescue

(Festuca idahoensis), Indian ricegrass (Oryzopsis hymenoides), and other perennial grasses. Some sagebrush was present (largely Artemisia tridentata) with an understory of bluegrasses, such as Sandberg bluegrass (Poa secunda), Nevada bluegrass (Poa nevadensis), and sedges (Carex spp.) Livestock, introduced in the sixties, that multiplied and flourished in the eighties and early nineties, and followed by homesteading and dry farming in the early part of the twentieth century has altered materially the original native vegetation. Overgrazing and the plow have caused much of the perennial bunchgrasses to disappear and to be replaced by a plant community of Sandberg and other bluegrasses and annuals such as "cheat grass" (Bromus tectorum) and Russian thistle (Salsola pestifer)."

McDonald, L. J. Fire departments for the farm. Farm and Ranch 59(9): 32, illus. Sept. 1940. 6 T31

What the Arkansas-Verdigris soil conservation district of Oklahoma has done, in a cooperative effort, to prevent destructive prairie and woodland fires.

Floods and Flood Control

Collins, A. B. Function of flood control district in Los Angeles County and its future scope. Southwest Builder and Contractor 97(6):28-33, illus. Feb. 7, 1941.

Field, J. E. Cherry Creek [Colorado] flood control. Engin. Bul. 24(11): 6-7. Nov. 1940. L.C.

"Data on unprecedented rainfall and floods on Kiowa, Bijou, and Monument Creeks, areas adjacent to Cherry Creek region, Colorado; determination of average precipitation given in table; absorptive quality of ground."

Major projects of 1940. Engin. News-Rec. 126(7):250-[266], illus. Feb. 13, 1941. 290.8 En34

Progress during the year on major projects from coast to coast is briefly recorded.

Water supply, flood control, waterways, land reclamation, and irrigation are reported on.

Price river gets a corset. West. Farm Life 43(5):5, 10, illus. Mar. 1, 1941. 6 R153

"Rebound" revetment construction by the Price River watershed soil conservation district with the aid of SCS and CCC.

Van Vlack, L. H. Floods - cancelled! Sudden cloudbursts are no longer a worry to McGregor [Iowa] Iowa Engin. 41(4):82-83, illus. Jan. 1941. Tells of a flood control plan for the McGregor, Iowa, watershed devised with the assistance of SCS.

Table shows "the general construction specifications for the three reservoirs included in the McGregor project."

Willard, F.V. Red River water problems. Three states are affected.
Minn. Dept. Conserv., Conserv. Volunteer 1(6):53-57, illus. Mar.
1941. 279.8 C765

"Water control problems are inherent in the geography of the Red
River drainage basin" of North and South Dakota and Minnesota.
Map on p.55, of the drainage basin.

Williams, G.R. and Schuleen, E.P. Maximum probable floods on Pennsylvania
streams. Amer. Soc. Civ. Engin. Proc. 67(2):240-246, illus. Feb.
1941. 290.9 Am3P

Discussion of paper by Charles F. Ruff, published in September, 1940
Proceedings.

Flow of Water

Robertson, J.M. and Rouse, Hunter. On the four regimes of open-channel
flow. Experiments emphasize distinction between laminar-turbulent and
tranquil-rapid classifications. Civ. Engin. 11(3):169-171, illus.
Mar. 1941. 290.8 C49

Wilson, W.E. Effects of curvature in supercritical flow. Civ. Engin.
11(2):94-95, illus. Feb. 1941. 290.8 C49

"Vertical acceleration components modify static distribution and
may produce pressure drops much sharper than those from horizontal
curvature in subcritical flow."

Forests and Forestry

Terry, E.K. The future of forestry and grazing in the Southern pine
belt. Sci. Monthly 52(3):245-256, illus. Mar. 1941. 470 Sci23
Advocates the protection of southern woodlands from burning and
the proper management of grazing so that both the South's forest
resources and live-stock industry may develop "without mixing the
two on the same areas to their mutual detriment".

Wilde, S.A. and Patzer, W.E. Soil-fertility standards for growing
northern hardwoods in forest nurseries. Jour. Agr. Res. 61(3):215-221,
illus. Aug. 1, 1940. 1 Ag84J
"Literature cited," p.221.

Wilson, J.A. Forestry and its relation to the problem of soil erosion.
Madras Agr. Jour. 28(7):[264]-268. July 1940. 22 M262

Grass Drying

Lord, Russell. More about grass, and those who know how to farm gently,
without breaking sod. Country Life 79(1):42. Nov. 1940. 80 C832
The writer reviews an article on grass-drying by G.P. Pollitt and
refers to various experiments on "sward culture".

Pollitt, G.P. Recent developments in grass drying. Roy.Soc.Arts. Jour.85(4414):734-750, illus. June 25, 1937. 501 L847J

Summarizes the achievements hereto and the possibilities of the future health and nutrition of man and animal in connection with drying of grass by artificial means.

Tropical agriculture. Grass as human food. Trop.Agr.[Trinidad] 17(7):127. July 1940. 26 T754

"After 4 years' of experimentation, Drs. G.O. Kohler, W.R. Graham and C.F. Schnabel of Kansas City, Missouri, have established that grain grasses (wheat, barley, oats or rye) contain all the chief vitamins except D. To make the grain grasses fit for human consumption the young blades are dried, bleached and finely ground to powder. Three factories in U.S.A. are already engaged in the manufacture of grass powder." Abs. Imp. Bur. Pastures and Forage Crops, Herbage Abs. 10(4):341. Dec. 1940.

Grass and Grassland

Amazing comeback of Prairie County's range. Mont. Farmer 28(7):[3], 20, illus. Dec. 1, 1940. 6 M764

"Crested wheatgrass lands take care of cow on 2 to 4 acres; formerly 15 to 20 acres required."

"An outstanding change in the vegetation is occurring on the range lands of Prairie county, Montana, as a result of the termination of the drouth period in 1937, more favorable moisture conditions prevailing since then and the conservation programs, according to Clement A. Rose, junior range examiner for the Soil conservation service."

Anderson, K.L. Nation's pastures will profit by grass-breeding in Kansas. History of important work is told. South. Florist & Nurseryman 50(9):9, 20-22, illus. Dec. 6, 1940. 80 So86

Table 1. Summary of growth data of big and little bluestem in their first season of growth, 1935.

Carpenter, J.R. The grassland biome. Ecol. Monog. 10(4):[617]-684, illus. Oct. 1940. 410 Ec72

"Bibliography," pp. 673-684.

"It is the purpose of this study to bring together the results of research and reports on the condition, fauna, flora, and interrelationships as they existed in the North American grassland before settlement by the European races."

Cooper, J.F. Florida's search for better grasses. Better Crops with Plant Food 25(2):12-14, 36-40, illus. Feb. 1941. 6 B46

Enlow, C.R. Adjusting farms to a grassland agriculture. Natl. Seedsman 7(5):6-7, 28-29, illus. Nov. 1940. 618 N21

"Soil conservationist shows how grassland agriculture advocated in October issue of National Seedsman can be practically applied to farms. And how it forebodes a future for field seed sales."

H.A. International institute of agrostological research. Internatl. Rev. Agr. [Rome] 31(12):435T. Dec. 1940. 241 In82

"At the IIInd Agronomy Congress held at Rio Grande do Sul (Brazil), Victor C. del Mazo presented a proposal for the establishment of an Institute for Agrostological Research on the pampas region of South America. The proposer, after having pointed out the importance and pastoral possibilities of this region and discussed questions of soil erosion, progressive exhaustion of soil fertility and degeneration of the grasslands, suggested establishing an Indo-American Institute. The Sub-Committee for Agrostology, after discussing the motion, proposed its adoption by the Congress and its transmission to the authorities concerned, with a view to making the necessary arrangements for its materialization."

Entire article quoted.

Lancaster, R.R. Invasion of grassland by mesquite. Economy of control lies in the value of growth that will replace it. Cattleman 27(9): 75-76, illus. Feb. 1941. 49 C29

Lord, Russell. "The strength and quietness of grass" is the backbone of a nation. Country Life 78(6):40-41, illus. Oct. 1940. 80 C832
Quotes from a radio address on grass by Henry A. Wallace, terming it "one of the most important pronouncements on sound, longtime soil conservation of the present century."

Prince, F.S. Further shifts in grassland farming? Better Crops with Plant Food 25(1):19-21, 44, illus. Jan. 1941. 6 B46

Sotola, Jerry. The chemical composition and apparent digestibility of nutrients in crested wheatgrass harvested in three stages of maturity. Jour. Agr. Res. 61(4):303-311, illus. Aug. 15, 1940. 1 A284J
"Literature cited," pp. 310-311.

Thomas, A.S. Grasses as indicator plants in Uganda-1. East African Agr. Jour. 6(1):19-22, 53. July 1940. 24 Fa74

The effects of climate, of soil, man's activities and stock grazing on the distribution and behaviour of grasses are considered, with special regard to Pennisetum purpureum.

Highway Erosion Control

Cosline, H.L. How soil erosion control lessens highway costs. Amer. Agr. 138(4):97, 100-101, illus. Feb. 15, 1941. 6 Am3

The Town of Cohocton, Steuben County, N.Y., in the area which makes up the erosion control demonstration of 153,000 acres in the Cohocton river valley, is "a shining example of cooperation between town authorities and agencies interested in controlling erosion".

"It is estimated that the Town Highway Department has already been saved at least \$500.00."

Tevis, C.C. Erosion control reduces road upkeep. Engin. News-Rec. 126(9): 339-341, illus. Feb. 27, 1941. 290.8 En34

Lists 15 construction provisions that reduce erosion; Table shows "Maintenance costs per mile due to erosion".

Hydraulics and Hydrology

[American society of civil engineers. Committee on hydraulic research]
Practical but basic results sought by Hydraulic committee. Civ. Engin.
11(2):124, illus. Feb. 1941. 290.8 C49
Brief description of progress on new and continuing fields of investigation.

Hydraulic laboratory developments along the eastern seaboard. Civ.
Engin. 11(3):182-183. Mar. 1941. 290.8 C49

Haywood G. Dewey reports on experiments at New York, Columbia, and Connecticut universities, Massachusetts Institute of Technology, the National Hydraulic Laboratory at the Bureau of Standards, the Beach Erosion Board of the War Department and the SCS Outdoor Laboratory at Spartanburg, S.C.

There, he says, channels with vegetal linings are of primary concern. "Each channel is tested over a wide range of discharges and the values of Manning's and Kutter's roughness coefficients determined. The problem of erosion is likewise studied during these tests by determining the maximum allowable velocity before erosion develops in the underlying soil, which in these experiments is Cecil clay. One group of these tests indicates that a trapezoidal channel on a 30% slope lined with solid Bermuda sod, and with a bottom width of 1 ft. and side slopes of 1:1, has a probable safe velocity of 8 ft per sec and a Kutter's n of 0.035.

"Comparative tests are made between the types of grasses with the grass long, cut short, dormant, and at different periods of growth. It is interesting to note that the resistance or retarding effect of vegetation decreases with the depth of flow in a channel because of a 'shingled' effect produced by the plants flattening against the channel bed in the direction of flow. If the stems of the vegetation are woody, this effect is not as pronounced, so the retarding effect does not decrease as rapidly with increase in depth of flow."

Nelidov, I. Theoretical discharge coefficients for a weir of Ogee profile. Civ. Engin. 11(1):40-41, illus. Jan. 1941. 290.8 C49

Insects and Soil Conservation

Annand, P.M. Recent changes in agriculture and their effect on insect problems. Jour. Econ. Ent. 33(3):493-498. June 1940. 421 J822

Discusses soil conservation, strip farming, maintenance of soil cover, proper land use and the retirement of unproductive lands.

Dibble, C.B. Grasshoppers, a factor in soil erosion in Michigan. Jour. Econ. Ent. 33(3):498-499. June 1940. 421 J822

Dick, R.D. Observations on insect-life in relation to tussock-grassland deterioration; preliminary report. New Zeal. Jour. Sci. and Technol. A. Agricultural section 22(1A):19-29. June 1940. 514 M48

Watson, J.R. Relation of cover crops to citrus insects. Citrus Indus. 21(7):11, 18. July 1940. 180 C49

Irrigation and Drainage

[American society of civil engineers. Committee of the irrigation division on interstate water rights] Final report. Interstate water problems. Amer. Soc. Civ. Engin. Trans. 65(8)Pt. 2:1822-1866. Oct. 1939. 290.9 Am3P

Appleton, J.B. Migration and economic opportunity in the Pacific Northwest. Geog. Rev. 31(1):46-62, illus. Jan. 1941. 500 Am35G

Includes discussion of the agricultural problems met by migrants, particularly irrigation, drainage.

"It is estimated that by irrigation, drainage, clearing and diking, 5,000,000 acres of now unproductive land can be made available for cultivation, provided that soil conservation practices are employed."

Ballard, J.I. Irrigation and hydroelectric power. Engin. News-Rec. 126(7):233-235, illus. Feb. 13, 1941. 290.8 En34

"Legal and other non-technical problems affect future development of multi-purpose projects."

Brenner, W.W. Storm drainage structures, Gila gravity main canal. U.S. Bur. Reclam., Reclam. Era. 31(2):35-36, illus. Feb. 1941. 156.34 R24

Caldevilla, G.M. The draining of the Carrasco Marshes. (La desecacion de los Banados de Carrasco) [Montevideo] Univ., Facult. de Agron. Rev. 20:23-161. Apr. 1940. 102.5 M76R

"The Carrasco Marshes occupy an area of approximately 2,855 acres at a distance of 17 kilometres from the city of Montevideo. Even when dry, they are uninhabitable and of negligible value for grazing; and from March to November, when they are inundated, they constitute a mosquito-infested menace to the adjacent capital. Their drainage and reclamation, by means of canalization and the systematic planting of willows, poplars, eucalyptus and other trees, have now been in progress for two years at the order of the Ministry of Public Works, the planning and direction being in the charge of Miguel Quinteros, Jr., Professor of Forestry in the University of Montevideo. In the present article a full account is given of the Marshes themselves, of the adjoining National Park, which has been reclaimed by afforestation from shifting sand dunes, of the plan and technique of the work and of the results already achieved. The annotated list of plants, pp. 67-74, includes fifty-six grasses and nine legumes. In the area already reclaimed a marked change in the natural vegetation is apparent: Scirpus riparius and Typha domingensis, which are dominant in the undrained marsh, have receded before Echinochloa crus-galli Beauv., and an association has been formed which is described as transitional between meadow and dune on the one hand and marsh on the other. The new land is eagerly sought by roaming herds of cattle, so that the young tree nurseries for which it is employed have to be fenced against them." Abs. Imp. Bur. Pastures and Forage Crops, Herbage Abs. 10(4):368. Dec. 1940.

Clyde, G.D. Irrigation water pumping costs in Beryl area [Utah] investigated. Available water will not irrigate over 5,000 acres. Utah Agr. Expt. Sta. Farm & Home Sci. 2(1):7-8, illus. Mar. 1941. 100 UtlF

Debler, E.B. Multiple-use aspects of irrigation projects. Combined development of domestic power, navigation, flood control, and recreational uses may be achieved with proper planning. Civ. Engin. 11(2):83-86, illus. Feb. 1941. 290.8 C49

Gardner, Willard. Tile drainage not advocated for land overlaying an artesian basin. This type of land can be drained by pump wells. Utah Agr. Expt. Sta., Farm & Home Sci. 1(4):5, illus. Dec. 1940. 100 UtlF

Israelsen, O.W. Lining irrigation canals to save water. Utah Agr. Expt. Sta., Farm and Home Sci. 1(3):5, 11, illus. Sept. 1940. 100 UtlF

"Considering the welfare of all the people in an irrigated valley (1) for saving of water for use in irrigation, (2) for reduction of the cost of drainage of irrigated land, and (3) for conservation of soil productivity. To the stockholders of a mutual irrigation company, however, the lining is valuable only to the extent that it saves water for the use of the stockholder irrigators. The drainage systems are usually not under the management or control of the irrigation company, and, therefore, the reduction of drainage costs does not directly influence the canal company officials. Likewise the lands that need protection against waterlogging and alkali concentration are frequently far removed from the canals that sustain seepage losses. At present the cost of lining must be justified largely, if not entirely, on the basis of the value of the water saved. The author analyzes the costs and savings involved in lining canals with cement concrete and reduces his results to a formula for estimating the justifiable cost per square foot of lining. Abs. U.S. Off. Expt. Stas., Expt. Sta. Rec. 84(1): 108-109. Jan. 1941.

Krekow, E.A. Maintenance of open drainage ditches. Agr. Engin. 22(1): 7-8. Jan. 1941. 58.8 Ag83

"The type of open ditch discussed in this paper is the one constructed primarily for an outlet to tile drains and for auxiliary surface drainage. These ditches drain land within the boundaries of incorporated drainage districts in north central Iowa, which lies in the Wisconsin drift area. Similar drainage ditch construction is found in north central Illinois and parts of Ohio and Indiana. Studies of the drainage problem discussed in this paper were made primarily in Kossuth and adjoining counties in Iowa."

Nelson, C.E. and Wheeting, L.C. Fertilizer placement under irrigation in Washington. Amer. Soc. Agron. Jour. 33(2):105-114, illus. Feb. 1941. 4 Am34P

"Literature cited," p. 114.

Theron, J.J. The fertility of soils under irrigation. Farming in So. Africa 15(176):428. Nov. 1940. 24 So842

West, E.S. Soil moisture relationship. Understanding necessary to irrigators. Citrus News 16(12):182-183. Dec. 2, 1940. 80 C494
Stresses field capacity and wilting.

Land Management and Utilization

Foster, E.A. Cooperative land use planning: a new opportunity for state agencies. Jour. Forestry 39(2):103-106. Feb. 1941. 99.8 F768

Harrold, L.L. Ground-water supplies in the mid-continent area. Civ. Engin. 11(2):115-116. Feb. 1941. 290.3 C49

Comment on G.S. Knapp's paper "Water Resources of the Mid-Continent Area" in October issue of Civil Engineering with suggestion that recognition be given to the possibility of increasing ground-water supplies by certain land-use practices on agricultural areas.

Jennings, D.S. and Wilson, Lemoyne. Soil surveying fundamental to efficient land-use planning. Utah Agr. Expt. Sta., Farm & Home Sci. 1(4): 1, 8, 10, illus. Dec. 1940. 100 Ut1F

Johnson, V.W. and Walker, Herman, jr. Centralization and coordination of police power for land-control measures. Jour. Land and Pub. Util. Econ. 17(1):[17]-26. Feb. 1941. 282.8 J82

This article considers the organizational requirements of police power vested in local units of government as a means of regulating rural land uses.

Paragraph headings are: The administrative unit; The legislative unit; Illustration from soil conservation districts; The county as the unit in coordination; Analysis of a proposed coordinating statute; Illustrative draft statute - Consolidated police power for zoning, soil conservation, flood control, and other local rural land-use adjustments.

Kellogg, C.E. Contributions of soil science and agronomy to rural land classification. Jour. Farm Econ. 22(4):729-739. Nov. 1940. 280.8 J822

Moore, H.R. and Headington, R.C. Agriculture and land use as affected by strip mining of coal in eastern Ohio. Ohio Agr. Expt. Sta. Bimo. Bul. 25(207):174-177, illus. Nov./Dec. 1940. 100 Oh3S

"Table 1.-Land utilization and other factors related to the occupancy of 76 tracts of land affected by strip mining in Columbiana, Harrison, and Jefferson Counties, 1940."

Rowlands, W.A. Farm buildings in land-use planning. Agr. Engin. 22(1): 25-26. Jan. 1941. 58.8 Ag83

"Out of the discussions and deliberations of county and community land-use planning committees in Wisconsin has come a realization that (1) the repair and upkeep of existing farm structures are significant and often overlooked factors in the total cost of farm production; (2) the design and construction of farm buildings are rapidly being influenced by new crops, cropping practices, machinery, and equipment which have necessitated new methods of feed storage and (3) the average income from existing family-sized farms in many of the newer counties is too small to provide for the maintenance of soil fertility, to furnish an adequate living for the operator and his family, and at the same time to bring in enough money for the upkeep and repair of farm buildings and machinery."

Several methods of attack on the problem by Wisconsin farmers are mentioned, particularly in Barron and Marinette counties.

Wernimont, Kenneth. State rural land-use legislation in 1940. Jour. Land and Pub.Util.Econ.17(1):103-108. Feb.1941. 282.8 J82
Topics are state land policy; conservation legislation; farm tenancy; forestry legislation, etc..

Williams, R.M. Planning for people, not for plans. U.S. Bur. Agr. Econ. Land Policy Rev.4(1):30-34, illus. Jan.1941. 1 Ec7La

"Here is a warning and a challenge that should clarify some thinking about the scope and ends and methods of land use planning. It is a plea for greater understanding of the social, personal, factors involved, and a warning that 'certainly it would be unfortunate if planning efforts merely gave the American rural people a more systematized dose of the same elements which have contributed to the present rural situation.'"

Meetings

[Botanical society of America] Abstracts of the papers presented before the General, Paleobotanical, Physiological, and Systematic Sections of the Botanical Society of America, Philadelphia, Pa., December 30, 1940 to January 1, 1941. Amer. Jour. Bot. 27(10):1s-25s. Dec. 1940. 450 Am36

Abstracts of interest are: Geographic variations in black locust as a basis for the selection of seed sources, by Henry Hopp, p.11s. ("Variations in growth-form of black locust can be classified into six basic groups which are geographically segregated, and associated with a distinctive climatic zone. It is suggested that regional climatic variations within the range of black locust has had a natural selective action, resulting in the isolation of distinctive growth forms similar to the climatic races that are known to occur in some other trees. The use of these naturally segregated geographic forms as seed sources offers a means for obtaining desirable types of black locust at a reasonable cost."); A study of the seasonal development of the roots of several species of pasture grasses, by Irene H. Stuckey, p.19s; Local floras in relation to conservation, by F.R. Fosberg, p.23s.

[Ecological society of America] Program of the Philadelphia meeting with abstracts of papers. Twenty-sixth annual meeting, Dec. 27, 1940 to Dec. 30, 1940 with the American Association for the Advancement of Science, Section on Social and economic science (K), Society of American foresters, Limnological Society of America, Entomological Society of America, American Society of Zoologists. Ecol. Soc. Amer. Bul. 21(4): 26-45. Dec. 1940. 410.9 Ec7

Partial contents: Natural revegetation of abandoned crop land in the South-Central United States, by W.E. Booth, p.27; The response of the plum grown under hillculture conditions to modifications in cultural treatment: II. The development of the root system, by J.M. Aikman and Ada Hayden, p.27; Evaluation of species of native prairie grasses as interplanting ground covers on eroded soils, by Ivan L. Boyd and J.M. Aikman, p.27; Indicator significance of the three dominant plants in the early stages of secondary succession on eroded soils in Southern Iowa, by Henry S. Ward, jr., p.27; Soil porosity studies in relation to plant succession, by Robert M. Warner, p.28; Seasonal trends

in the moisture content of soils beneath forest and grass vegetative covers, by Robert F. Chandler, Jr., p.33; The root development of grapes grown in experimental hillside vineyards, by Moras L. Shubert, p.35; Soil erosion as an ecological process, by Edward H. Graham, p.38.

[Western association of nurserymen] Western association meets. Oldest regional organization of nurserymen starts second half century with program containing several addresses of unusual timeliness and importance at Kansas City, Mo., January 7 to 9. Amer. Nurseryman 73(2): 9-10. Jan. 15, 1941. 80 Am371

Soil erosion and prevention of same was the subject of a talk by A. E. Weston in which he particularly mentions the need for soil conservation in the Ozark region. Only a brief summary of the talk is given.

Organic Matter

Bracken, A. F. and Groaves, J. E. Losses of nitrogen and organic matter from dry-farm soils. Soil Sci. 51(1):1-15, illus. Jan. 1941. 56.8 So3
"References," pp. 14-15.

"Nitrogen and organic matter changes were studied on nine dry farms in Cache Valley, northern Utah, and on twelve in Juab Valley, central Utah.

"In Cache Valley, virgin land in the first foot was found to be 15.9 per cent higher in nitrogen and 20.4 per cent higher in organic matter than adjacent wheat land. The second to third foot section on virgin land was 14.8 per cent higher in nitrogen than cropped land. For Juab Valley the same comparison showed a nitrogen loss of 14.5 per cent in the first foot and 10.6 per cent in the second to third foot. The loss of organic matter in the surface foot amounted to 18.8 per cent.

"On severely eroded areas in Cache Valley, loss of nitrogen and of organic matter amounted to 58.5 and 57.8 per cent, respectively, as compared to level uneroded land in crops...

"In attempting to account for the nitrogen lost from cultivated dry-farm soil through means other than harvested crops, it was considered that slight losses occurred through leaching and erosion. The major part of the loss, however, is assumed to have taken place in some other way not well understood, likely as a result of chemical and biological changes resulting in volatilization of nitrogen in some form. This may be due to higher temperatures and greater amounts of moisture, particularly during the fallow period."

Fowler, R. H. and Whetting, L. C. Nature of organic matter in western Washington prairie soils as influenced by differences in rainfall. Amer. Soc. Agron. Jour. 33(1):13-23, illus. Jan. 1941. 4 Am34P
"Literature cited," p. 23.

Salisbury, H. F. and DeLong, W. A. A comparison of the organic matter of uncultivated and cultivated Appalachian upland podsol soils. Sci. Agr. 21(3):121-132, illus. Nov. 1940. 7 Sci2

"The present study is an attempt to determine what changes, if any, the organic matter of these soils may have undergone as a result of deforestation and subsequent cultivation for a period of 75 years or more."

Percolation

Davison, B. and Rosenhead, L. Some cases of the steady 2-dimensional percolation of water through ground. Roy. Soc. London. Proc., Ser. A. 175(962):346-365. June 12, 1940. 501 L84A

"References," p. 365.

"The cases treated comprise (1) percolation through a broad embankment, (2) percolation from a dyke of rectangular section, and (3) motion of water outside a number of parallel draining tubes. The analysis employs the method of conformal representation, and the method can, in certain cases be applied to problems in which plane seepage surfaces occur." J.S.G.T. Abs. Sci. Abs. Sect. A. 43(512):592. Aug. 25, 1940.

Rabbits

Fenton, E.W. The influence of rabbits on the vegetation of certain hill-grazing districts of Scotland. Jour. Ecol. 28(2):438-439. Aug. 1940. 450 J829

"The areas investigated lie in the Pentland Hills and the northern part of the Moorfoot Hills.

"Typical examples of changes in the vegetation due to rabbit grazing are given and comparison is made with the results of other investigations, in particular with Breckland and the Isle of Man.

"The plants recorded as unpalatable to rabbits are in agreement with previous findings, except that Holcus mollis, H. lanatus and Pteridium aquilinum are slightly grazed, and Digitalis purpurea is grazed in its younger stages. The plants which suffer most from rabbit damage are Calluna vulgaris, Vaccinium Myrtillus and Nardus stricta. Deschampsia caespitosa where it occurs is quickly destroyed.

"D. flexuosa and Agrostis-Festuca grassland are both severely grazed, but they are capable of withstanding grazing pressure for a long time. Heath or mixed heath-grassland is succeeded by an Agrostis-Festuca association. This in turn is succeeded by an increase of Deschampsia flexuosa, often to a temporary dominance, followed by abundance of Galium saxatile. In time there develops a moss-dominated vegetation which in extreme cases degenerates to a vegetation rich in lichens, chiefly Cladonia.

"Much depends on the density of the rabbit population. The denser it is the more intensive the grazing and the more drastic the vegetation changes. All vegetation grazed by rabbits was previously grazed by sheep, hence a rabbit-biotic-climax is being superimposed on a sheep-biotic-climax. Where rabbits are plentiful 'scree' formation and soil erosion may occur! Author's summary. Abs. Imp. Bur. Pastures and Forage Crops, Herbage Abs. 10(4):347. Dec. 1940.

Foster, W.S. Rabbits will eat your grass. Prog. Farmer (Tex. Ed.) 56(2): 71, illus. Feb. 1941. 6 T311

Tests on the New Mexico State College ranch indicate that the removal of cattle and rabbits will allow it to be revegetated naturally, but that removal of cattle alone will not accomplish the desired results.

Rainfall

Clark, O.R. Interception of rainfall by prairie grasses, weeds, and certain crop plants. Ecol. Monog. 10(2):243-277, illus. Apr. 1940. 410 Ec72

"Literature cited," pp. 276-277.

Summary: "Interception of rainfall by prairie grasses, weeds, and certain crop plants was measured at Lincoln, Nebraska, during 1937 and 1938.

"Pans, 100 cm. long, 4 cm. wide, and 5 cm. deep, were placed beneath the plants with minimum disturbance of the foliage cover. Water applied at predetermined rates to simulate rainfall or natural rain which penetrated the plant cover was measured. The percentage of interception was calculated from this amount.

"The percentage of interception varied with the intensity of rainfall, density of foliage cover, and environmental conditions. Wind movement and condition of the sky were especially important because of their effect upon evaporation.

"Andropogon furcatus intercepted almost half (47 percent) of an inch of rain during an hour, and larger percentages with applications of lower intensity.

"Stipa spartea and Sporobolus heterolepis withheld 50 percent or more of the water applied in the form of light showers.

"Agropyron smithii intercepted almost half and Elymus canadensis more than half of a fourth-inch rain during 30 minutes.

"Percentage of interception by Spartina pectinata varied from 72 percent with an eighth-inch rain to 55 with a half-inch rain during 30-minute periods.

"Lowland forbs withheld from the soil nearly half of the water during heavier showers and about two-thirds during the lighter ones.

"Upland forbs intercepted from 20 to over 50 percent of the water falling on them, depending upon the intensity.

"Interception by common weeds varied from 34 percent with half-inch rains to nearly 70 percent with eighth-inch showers.

"Triticum aestivum prevented nearly 60 percent of the water from reaching the soil during heavy applications of rain and as much as 80 percent with the lowest intensity.

"Avena sativa intercepted from 43 to 73 percent of the water applied as showers of varying intensities.

"Melilotus alba intercepted the following percentages during an hour: one-eighth inch, 94; one-fourth inch, 92; one-half inch, 57; 1 inch, 47; 2 inches, 44.

"Mat forming weeds held upon their leaves and stems from 9 to 50 percent of the water falling during applications of different intensities.

"Eragrostis cilianensis and Buchloe dactyloides prevented from reaching the soil amounts of water ranging from 16 percent during heavy rains to 74 percent during light showers.

"The maximum capacity of interception ranged from 47 to 261 grams of water per square-foot area of living plant materials. Dead plants held from 156 to 446 grams on similar areas.

"Triticum aestivum intercepted 33 percent of heavy natural rainfall and as much as 90 percent of light showers.

"Interception by Avena sativa varied from 45 to 72 percent of the

natural rainfall.

"With Medicago sativa, interception was as high as 89 percent during a light shower and as low as 26 during a heavy rain.

"Interception of natural rainfall by Spartina pectinata varied from 66 to 80 percent.

"Andropogon furcatus withheld about two-thirds of the precipitation during a heavy rain and as much as 97 percent of very light showers.

"Water is held upon plants in the form of thin films or as drops which form on the surface, at the tips, or along the margins of leaves. Water also adheres to the stems.

"Extent of the leaf surface and the number of levels at which water may be held are important factors in determining the percentage of interception.

"Prairie vegetation has a foliage area 3 to 20 times as great as the soil surface. Leaves are displayed at many levels.

"In these experiments, the amount of water reaching the soil by running down the stems was found to be small.

"Interception by prairie grasses, weeds, and crop plants results in an important loss of water to the soil. Light showers are ineffective in replenishing the soil water.

"Annual losses of water due to interception, transpiration, and evaporation are as high in certain grasslands as in adjacent forested regions.

"Interception of rainfall by herbaceous vegetation has an important retarding effect upon runoff and indirectly upon soil erosion.

"Grassland is an important factor in the conservation of water through its effect upon runoff and percolation, as well as checking evaporation by shading the soil."

Crawford, L.C. Trend in rainfall records confirmed. Civ. Engin. 11(1): 45, illus. Jan. 1941. 290.9 C49

Refers to "Water Resources of the Mid-Continent area" by George S. Knapp in October 1940 issue of Civil Engineering.

Figure gives climatological and runoff data for Mississippi river basin above Keokuk, Iowa.

Johnson, C.F. Analysis of rainfall records. Civ. Engin. 11(2): 118, illus. Feb. 1941. 290.8 C49

Comment on article in November 1940 issue of Civil Engineering by H.F. Kennison entitled "Sixty-Year Rainfall Record Analyzed."

Table gives "Rainfall intensities at Louisville, Ky., from a 40-year record compared with those from a 24-year record."

Keet, J.D.M. Rainfall and streamflow at the Cape. Jour. So. African Forestry Assoc. no. 7, pp. 15-20, 1940. 99.9 Sc82

"While in the past plantations of exotic trees have been blamed for adversely affecting streamflow in the Cape Peninsula, it is shown that, in some localities at least, there is a clear relationship between amount and incidence of rainfall and streamflow irregularities." Abs. Imp. Forestry Bur. Forestry Abs. 2(3): 188. 1941.

Range and Pasture Management

Musgrave, M.E. Miracle maker of the rangeland. Amer. Forests 47(2): 64-66, 92-93, illus. Feb. 1941. 99.8 F762

"The story of how Hohn Timothy Page brought 320 acres of Arizona rangeland back to productivity, of how this aged man, with only a shovel and a spading fork, made miles of furrows and ditches over his place, of how with only the native earth, brush and stones he built small dams to hold or to divert flood waters, building them not once or twice but over and over until they held - this is a saga of the range."

Pechanec, J.F. Sampling error in range surveys of sagebrush-grass vegetation. Jour. Forestry 39(1):52-54, illus. Jan. 1941. 99.8 F768

"One major objective of a range survey is to determine the forage cover, as a basis on which to estimate grazing capacity. However, it is extremely unlikely that the estimated forage yield of an area will coincide with the actual yield, even if methods of measuring vegetation are without error, and if individual members of survey crews are mechanical in their precision. If sampling units are drawn correctly, however, an estimate of the magnitude of the difference is provided by the unbiased estimate of sampling error. An unbiased or representative estimate of sampling error also provides appropriate information for estimating the number of sampling units (plots) needed to attain arbitrary limits of accuracy in future surveys on similar range areas."

Reservoir Mapping

Measuring reservoir capacity from twenty thousand feet. Power Plant Engin. 44(11):89-92. Nov. 1940. 290.8 P88

Technique and equipment used in making aerial "mosaic maps" to determine actual capacity of huge reservoir being constructed near Crystal Falls on Michigamme River in Michigan's upper peninsula.

Sand Dunes

McLaughlin, W.T. Planting for topographic control on the Warrenton, Oregon coastal dune area. Northwest Sci. 13(2):26-32. May 1939. 470 N81

Provis, Ed. The coastal dunes of Belgium (Les dunes domaniales en Belgique) Cent. Forest. Belgique Soc. Bul. 46(7):300-309. July 1939; 46(8):332-344. Aug. 1939. 99.9 B83

"This is an account of the afforestation of coastal dunes. Unlike the Netherlands, where Austrian pine is considered best for planting on dunes, Corsican pine is favored in Belgium. - W.N. Sparhawk." Abs. Biol. Abs. 15(3):6215. Mar. 1941.

Sedimentation and Silt

Jenkins, D.S. Silt samplers compared in special tests. Accuracy, ease of operation, and influence of submersion period given trial on Brazos river near Waco, Tex. Civ. Engin. 11(1):3-6, illus. Jan. 1941. 290.8 C49

The writer selected five instruments and subjected them to careful and thorough tests designed to evaluate their relative suitability under practical operating conditions.

Problems of irrigation engineering. Indian Engin.107(6):149-150.
June 1940. 290.8 In2

Letters to the editor from C.C.Inglis and R.K.Khanna relative to
Mr.Khanna's article in April 1940 issue.

Silt transportation is the topic of discussion.

Weyer,A.E. Muddy streams threaten fish.Excessive silt rapidly mak-
ing many Missouri streams unfit for fish life,aquatic biologist
reports. Mo.Conserv.3(2):5,illus. Dec.1940. 279.8 M69

Seeds and Seedlings

Phillips,J.E. Effect of day length on dormancy in tree seedlings.
Jour.Forestry 39(1):55-59,illus. Jan.1941. 99.8 F768

"Temperature has been the principal factor given by many workers
to account for dormancy in woody plants,and various other explana-
tions have also been advanced.Periodicity of growth has been observed
in woody plants in tropical as well as temperate zones.However,
temperature does not seem to be the limiting factor in growth when
kept within the ranges necessary for plant growth activity,as woody
plants brought into a greenhouse and kept at favorable temperatures
during the winter frequently exhibit dormancy.Since the air,temperature,
soil,and moisture conditions are kept favorable to plant growth in
greenhouses,the only other limiting factor to continued growth would
seem to be length of day."

Wenger,L.E. Soaking buffalo grass(*Buchloe dactyloides*)seed to improve
its germination. Amer.Soc.Agron.Jour.33(2):135-141,illus. Feb.
1941. 4 An34P

"Literature cited,"p.141.

Soil Conservation

Anker,D.L.W. Agricultural conservation in Okfuskee County. Okla.
Agr.Expt.Sta.Current Farm Econ.13(6):156-161,illus. Dec.1940. 100 Ok4

"In summarizing the results briefly,it appears that tenants do not
practice soil building as much as owners,and small farmers not as much
as large farmers.Although the data in Table 3 indicate that the larger
number of soil building practices on the larger farms is in direct
proportion to the smaller number of units in small farms,it should
be noted that neutral acres tend to make up a smaller proportion of
total farm land on large farms than on small farms.This explains why
large farms show up to better advantage in the matter of soil conserva-
tion when the payment earned is expressed as a ratio of the soil build-
ing goal.The small number of soil building practices carried out by
tenants and by operators of small farms is restricted to practices
which can be readily combined with normal farm operation,such as in-
terplanting summer legumes,contour farming of intertilled crops,and
green manure crop practices.Terracing and seeding of winter legumes
are a drain on money and labor,and small farmers are not as likely to
practice them as frequently as large farmers.Tenants are not likely
to practice terracing and seeding of winter legumes unless they are

reasonably sure of remaining on the farm during at least the next year or so, or can be assured of compensation for carrying out a conservation program of permanent value to the farm."

Atkins, S.W. Economic consequences of conservation. U.S. Soil Conserv. Serv., Soil Conserv. 6(7):165-168, illus. Jan. 1941. 1.6 So3S

The question of the probable effects on the immediate and future farm income is answered in this article insofar as it relates to Howard Cooke's farm, located in the Northeastern Piedmont of North Carolina.

Duggan, I.W. AAA's five-year plan in Alabama. U.S. Bur. Agr. Econ., Land Policy Rev. 4(2):20-23. Feb. 1941. 1 Ec7La

"The Agricultural Adjustment Administration in Alabama is pioneering in a 5-year plan of conservation and good farming practices - an experiment of significance to the whole Nation."

Duncan, Kunigunde. New U.S. life lines. Winding over hill and dale they save American soil and so save life. Current Hist. 52(9):22-23, 30, illus. Feb. 13, 1941. 110 C93

A vivid description of contour furrows and the machines that produce them.

Duncan, O.D. and Royer, P.B. Some characteristics of farmers on the Stillwater Creek watershed. Southwest. Social Sci. Quart. 21(3):234-245. Dec. 1940. 280.8 So82

This study, made at the Oklahoma Agricultural experiment station in cooperation with the U.S. Soil Conservation Service, involves the social characteristics of the farmers cooperating as opposed to those not cooperating with the soil conservation program.

Finnell, H.F. and Neubauer, T.A. Farmer evaluation of conservation practices in Southern Plains. U.S. Soil Conserv. Serv., Soil Conserv. 6(7):172-173, illus. Jan. 1941. 1.6 So3S

Table gives "Value of conservation practices as reported by farmers in rainfall belts of Region 6, 1940."

Freeland, Roy. Taking the curves with field artillery. Kans. Farmer 78(4):3, 14, illus. Feb. 22, 1941. 6 K13

Soil conserving practices in Kansas which are controlling the wind and capturing the rainfall.

Garrett, E.B. A once-in-a-hundred-years rain. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):228-229, 239, illus. Feb.-Mar. 1941. 1.6 So3S

"Farmers cooperating with soil conservation districts in North Carolina watersheds report that in August of 1940 they were given a striking demonstration of the value during flood period of crop rotation, strip cropping, improved pastures, properly constructed terraces, and water disposal systems on their farms."

Morison, F.L. Soil conservation achieved by the AAA program. Ohio Agr. Expt. Sta. Pimo. Bul. 26(208):11-12, illus. Jan.-Feb. 1941. 100 Ch3S

"In a study of the operation of the regional agricultural conservation

program in six east-central Ohio counties during the past few years, it has been possible to measure the extent to which soil conserving practices have been put into effect. Detailed data on crop acreages and cropland treatments have been secured on the same 242 farms since 1937. By using a method developed by workers at the Ohio Agricultural Experiment Station and The Ohio State University, it has been possible to calculate the annual rate of soil improvement or deterioration on each of these farms and to observe the improvement made from year to year.

"'Soil productivity balance value' is the term used to designate the annual rate at which the productivity of the soil is being built up or depleted. Cropland that is being depleted has a negative balance value."

Tables show "Soil productivity balance values on 242 farms in east-central Ohio, grouped according to participation in the 1940 AAA program", and "Percentage change, from 1937 to 1940, in the use of certain conservation practices on 242 east-central Ohio farms."

Neubauer, T.A. Farmer opinion of the Service program in the Southern Great Plains Region. U.S. Soil Conserv. Serv. South. Great Plains Reg., South. Great Plains Messenger Oct. 15, 1940, pp. [1]-[3]. 1.9606 So32

Table gives "Relative popularity of conservation practices by rainfall belts, Region VI."

Sherman, C.B. American rural fiction, 1940. U.S. Bur. Agr. Econ., Agr. Econ. Lit. 15(1):1-5. Jan. 1941. 1.9 Ec73Ag

In this review of rural fiction two are of special interest to the Soil Conservation Service, "Follow the drinking gourd," by Frances Ormond Gaither, a story of Hurricane plantation which was ruined by gullied soil and wasteful management; and "Fruit out of rock," by Frances Gillmor, full of dramatic material involving conflicts between waves of different kinds of users of the difficult lands of Arizona and New Mexico, with droughts and floods, used in a quiet fatalistic way.

Walter, D.H. Saving soil and maintaining income. U.S. Soil Conserv. Serv., Soil Conserv. 6(7):174-177, illus. Jan. 1941. 1.6 So3S

Summarizes findings of a 4-year period survey of farms practicing soil conservation in the Crooked Creek area watershed of Indiana and Armstrong counties, Pennsylvania.

Walter, D.H. Soil conservation. Pa. State Col., Pa. Farm Econ. no. 4, p. [8], illus., Nov. 1939. 275.29 382Pf

Table shows "labor incomes on 102 farms in 1934 and 1938, by type of farm and by cooperation with Soil Conservation Service, Crooked Creek Project, Pennsylvania."

Announces the results of a cooperative economic study in the Crooked Creek watershed.

Webb, C.G. Churches prosper as conservation comes to the land. U.S. Soil Conserv. Serv., Soil Conserv. 6(7):169-171, illus. Jan. 1941. 1.6 So3S

Indicates that churches in the Duck Creek watershed of Texas profited from the new life given to the rural community through soil saving efforts.

Webb, C.G. Soil saving resurrects a community. Prog. Farmer (Tex. Ed.) 56(2):12, 61, illus. Feb. 1941. 6 T311

On moral and spiritual values which derive from soil-saving farming in the SCS Duck Creek demonstration area near Lindale, Texas.

Wyatt, W.J. A banker's fourfold obligation. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):238-239, illus. Feb.-Mar. 1941. 1.6 So3S

In encouraging the adoption of soil conservation practices, the Federal land bank recognizes a four-fold responsibility: 1. It wants the farmer to be the owner of a profitable and permanent farm when the last payment on his loan is made; 2. Considers the protection of the soil which is the security back of the bonds; 3. Responsibility to consumers who are entitled to the assurance of continued supplies of food and fiber; 4. Responsibility to future generations of the nation.

Soil Conservation. Districts

Baldwin, R.J. Aiming at agricultural stability. U.S. Ext. Serv., Ext. Serv. Rev. 12(1):4, illus. Jan. 1941. 1 Pr892Ex

"A widespread educational program for the formation of soil conservation districts in the wind-swept areas along Lake Michigan" has resulted in bringing almost a half million acres in Ottawa and Muskegon counties into the district program.

Bennett, H.H. A new farm movement takes rapid root. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):191-196, illus. Feb.-Mar. 1941. 1.6 So3S

"Dr. Bennett finds in decentralized activity-farmer control- the key to permanent and effective soil conservation districts."

Brown, C.B. Protecting reservoir watersheds through the districts program. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):230-232, illus. Feb.-Mar. 1941. 1.6 So3S

Cohes, M.H. Putting the district idea to work on Michigan's lake shore. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):216-219. Feb.-Mar. 1941. 1.6 So3S

Concerns the West Ottawa soil conservation district.

Cothran, W.S. The banker's part in soil conservation districts. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):207-208. Feb.-Mar. 1941. 1.6 So3S

"The author is vice president of the National City Bank of Rome, Ga. This article is adapted from an address by Mr. Cothran at the annual meeting of Group Two, Georgia Bankers Association, Washington, Ga., November 20, 1940."

Dale, Tom. A district saves water where it falls. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):213-232. Feb.-Mar. 1941. 1.6 So3S

An interview with a supervisor of the Central Curry Soil Conservation District in New Mexico.

Davis, K.S. The Munson conservation district - an example of democracy at grass roots. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):220-223, illus. Feb.-Mar. 1941. 1.6 So3S

Haddock, J.L., Barraclough, K.E., and Prince, F.S. Why New Hampshire needs a soil conservation districts law. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):226-227, 237. Feb.-Mar. 1941. 1.6 So3S

Harper, F.B. and Russell, H.E. They knew what they wanted. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):209-212, illus. Feb.-Mar. 1941. 1.6 So3S
Why farmers and ranchers of the Latah Soil Conservation District in northern Idaho believe it is "in the cards" that their new district organization will help them to more profitable use of their rich Palouse lands.

Hurd, F.S. District operation from a supervisor's standpoint. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):197-201, illus. Feb.-Mar. 1941. 1.6 So3S

The author is chairman of the Board of Supervisors, Arkansas-Verdigris soil conservation district and writes of organization, plans and progress.

John, W.W. The land comes first. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):224-225, illus. Feb.-Mar. 1941. 1.6 So3S

Lester Hass's ideas about soil conservation on his new farm located in the Homer-Pleasant Soil Conservation District of Minnesota.

McClymonds, A.E. Of the farmers, by the farmers, and for the farmers. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9):203-206, 208, illus. Feb.-Mar. 1941. 1.6 So3S

About the Turkey creek soil conservation district in Pawnee county, Nebraska.

Soil Conservation. Study and Teaching

Bennett, H.H. Education for soil conservation. Natl. Ed. Assoc. U.S. Jour. 30(1):8-11, illus. Jan. 1941. 275.9 N21J

Benton, Mildred. Libraries and soil conservation. Wilson Libr. Bul. 15(5):[386]-387, 391, illus. Jan. 1941. 243.8 W69

Carter, V.G. Conservation education...in the local school. Ohio Schools 19(1):12-13, illus. Jan. 1941.

The author is Supervisor of Conservation Education, Zanesville Public Schools, Zanesville, Ohio.

Carter, Vernon. Chemurgy and conservation. Natl. Ed. Assoc. U.S. Jour. 30(3):69-70. Mar. 1941. 275.9 N21J

A plea for the building of a "conservation attitude in the American mind through education...

"Every new use chemurgy can find for soil products brings us that much nearer permanent prosperity...with chemurgy leading the shift from mineral resources to field resources, soil conservation now becomes a science."

Cartwright, Margaret. Unit on soil conservation. Wis. Conserv. Bul. 5(12):55-65. Dec. 1940. 279.8 W752

Unit prepared by the Principal, Wilmot graded school, Kenosha County, Wis.

Lundy, G.E. The conservation education program. Amer. Wildlife 30(1):
8-9. Jan.-Feb. 1941. 412.9 Am32
An outline of the National Wildlife Federation program.

Stone, C.W. Principles of teaching conservation. School and Soc.
52(1356):658-660. Dec. 21, 1940. 275.8 Sch62
"Adapted from an address before Section Q, The American Association
for the Advancement of Science, June 20, 1940."

Symonds, Clare. Tackling the erosion problem in high school geography
classes. Jour. Geog. 40(1):30-33. Jan. 1941. 278.8 J82
"Bibliography," p. 33.

Soil Conserving Plants

Davison, V.E. Lespedeza sericea for road cuts and fills. U.S. Soil
Conserv. Serv., Soil Conserv. 6(7):186-188, illus. Jan. 1941. 1.6 So3S

Pirmann, P.J. Watch winter barley. A fine cover crop, it also produces
abundant pasture and grain thru the southern half of the Cornbelt and
is fast moving northward. Successful Farming 39(2):25, 110, illus.
Feb. 1941. 6 Su12

"There are several reasons why practical farmers have taken increased
interest in the winter variety of barley. Soil-conservation is doubtless
of first importance. Loose soil erodes dangerously, both from wind and
water action during the fall and spring before annual crops are estab-
lished. The barley fills the need for a cover crop perfectly."

Ree, W.O. Hydraulic tests of kudzu as a conservation channel lining.
Agr. Engin. 22(1):27-29, illus. Jan. 1941. 58.8 Ag83

Soil Depletion

Livers, J.J. and Craig, G.H. Role of soil depletion in land valuation.
Jour. Farm Econ. 22(4):773-776, illus. Nov. 1940. 280.8 J822
Comment on Donald Ibach's article of same title in May 1940 Journal
of Farm Economics. The authors offer a "more general formula" for a law
of diminishing rents.

VanDerlinden, Lee. Soil depletion means plant-animal deterioration.
New Agr. 23(2):11. Nov. 1940. 66.8 Su32

Soil Erosion and Control

Booth, W.E. Algae as pioneers in plant succession and their importance
in erosion control. Ecology 22(1):38-46, illus. Jan. 1941. 410 Ec7
"Literature cited," p. 46.

Garin, A.N. Soil erosion damages public water supply. U.S. Soil Conserv.
Serv., Soil Conserv. 6(7):178-180, illus. Jan. 1941. 1.6 So3S
A discussion based on a study conducted jointly by SCS and the North
Carolina agricultural experiment station, of water supply reservoirs in
North Carolina to ascertain damages by soil erosion, from an economic
standpoint.

Jones, T.N. 40-day loss; 14 tons soil per acre. Miss Agr. Expt. Sta., Miss. Farm Res. 3(9):2, illus. 1940. 100 V69W1

"The author presents a brief report of the effects of rainfalls of from 0.11 to 8.58 in. on erosion-measurement plats ranging in slope from 2.5 to 12.5 per cent, the soil being Houston Clay, the crop cotton in contour rows. The proportion of the rainfall lost as runoff ranged for the 40-day period from 0 to 81 per cent. The total soil loss from the 12.5 per cent slope was nearly 14.82 tons, from the 7.5 per cent slope 14.14 tons, and from the 10 per cent slope nearly 11.78 tons. It is pointed out that the rains of the largest total quantity do not always cause the greatest soil and water losses, the determining factors being apparently the rainfall intensity and the moisture content of the soil at the beginning of the rain."

Kansas tests debunk slopes as major factor in erosion. West. Farm Life 43(5):8. Mar. 1, 1941. 6 R153

Summarizes results of tests supervised by F.G. Ackerman, in charge of soil and water conservation work at the Fort Hays branch of the Kansas experiment station.

"Ackerman concludes that slope does not have an appreciable effect on runoff and erosion. The most severe runoff and erosion occur on smooth-surfaced land that is bare of vegetation. Soil losses are small and the amount of runoff water held to a minimum where a good grass cover or dense-growing crop is maintained on the land, or where contour farming is practiced with terraces."

Latham, E.E. Relative productivity of the A horizon of Cecil sandy loam and the B and C horizons exposed by erosion. Amer. Soc. Agron. Jour. 32(12):950-954, illus. Dec. 1940. 4 Am34P

Soil stabilization. Conserv. Assoc. South. Calif., Conserv. Activities 9(2): 23, illus. Feb. 1941. 279.9 C763

A table prepared by the California Forest & Range Experiment station indicates erosion during the two winters subsequent to the burn caused by the Fern canyon fire of November 1938.

Visher, S.S. Climate and geomorphology: some comparisons between regions. Jour. Geomorph. 4(1):[54]-64. Feb. 1941. 331.8 J82

"Comparisons between the topography of parts of Indiana with those prevailing in comparable regions which have a dissimilar climate appear to justify some generalizations of rather widespread interest, including the following:

"(1) Regional contrasts in rainfall-intensity are of considerable physiographic significance. They have produced within a century in Indiana appreciable regional contrasts in amount and type of soil erosion and, where they have continued for a prolonged period (in the unglaciated region), have effected distinct regional contrasts in relief of a grosser type. (2) Regional contrasts in distribution of snowfall, in continually frozen ground, and in frequency of alternations of freezing and thawing are all significant in helping to cause contrasts in average angle of slope of north- and south-facing hillsides and in various other respects. (3) Climatic humidity (precipitation-evaporation ratio) is of physiographic importance in affecting the

number of streams, amount of water surface, type of vegetation) and several other conditions. (4) As the number of valleys in regions of corresponding lithology and relief tends to increase with run-off, average slope tends to decrease from humid to arid regions. Correspondingly, with increased rainfall, the percentage of fairly level land tends to decrease and, in regions of corresponding maturity of erosion, to be restricted increasingly to floodplains. (5) Cliffs are less common in humid than in drier regions under corresponding rock and relief conditions. (6) Badlands, although most extensive in semi-arid climates, develop slowly there because of small run-off, but develop rapidly on favorable slopes and materials in humid regions after deforestation. (7) Where comparable limestones occur, sinkholes are chiefly widened joints in warm rainy regions and are common, but in semi-arid regions they are chiefly due to the collapse of cavern roofs and are comparatively rare. Karsts are restricted to otherwise favorable areas possessing abundant rainfall and warmth during much of the year. (8) Accompanying climatic differences and vegetational contrasts induced thereby, topographic slopes differ in steepness, soil, rock exposure, run-off, and in various other respects. Various regional contrasts among north-facing slopes, for example, are partly due to climatic differences associated with latitude, altitude, and exposure to significant winds."

Yarham, F.R. The world's deserts are on the march. Forests & Outdoors 37(2):43-44, 58-59, illus. Feb. 1941. 99.8 C16

Soil Erosion and Control. Foreign Countries

Abeele, M., van den. L'erosion: - Agriculture et élevage au Congo Belge, Bruxelles 13(12):177-178. Dec. 1939. 26 Ag84

"Interesting note on the damage caused by erosion and on the measures for the control of soil deterioration." Abs. Internatl. Inst. Agr. Bib. Trop. Agr. 1939, p. 27.

An agrostological visit to Venezuela. Chron. Bot. 6(11):257-258. Feb. 24, 1941. 450 C46

Outline of itinerary and brief report of findings of Mrs. Agnes Chase, custodian of grasses, U.S. National Herbarium, who visited Venezuela to study grasses in 1940.

"The most conspicuous grass in the Federal District and near the rivers westward is Gnimerium sagittatum called 'cana brava'. It is an unsurpassed soil-binder along rivers and the canes are used extensively for roofing and for walls of houses overlaid with sun-baked brick."

"...The soil in many parts of the llanos is very badly wind-eroded, in places the fine top soil having been removed, exposing the gravel."

Bodrov, V.A. The organization of forestry in the 'protection zone' along river banks. Lesnoe Khoziaistvo, Moscow 6:6-12. June 1940. 99.8 L562
In Russian

"The necessity of forest planting along river banks, and especially the central and the lower courses of the Don and the Volga, is discussed. In order to check inundations, erosion, movement of sands, and other ill effects

- of past deforestation, as economically as possible, it is essential to plan carefully the location of new plantations. Even a relatively low forest per cent. may do if there is a favourable forest distribution. This is the case on the Kamonnaya Steppe (Voronezh) where the coefficient of run-off is practically zero although woodlands occupy only 17 per cent. of the area and only 20-25 per cent. of these woods are correctly located from the point of view of run-off control. It is suggested that afforestation work along the Don, the Volga and other rivers where such work is required should be handled by the Central Forest Protection Service ('Glavlesookhrana' - founded in 1936), but where the land forms part of collective farms, new plantations, while remaining under State supervision, should be placed under the care of the farms shortly after the trees have formed a canopy." Abs. Imp. Forestry Bur., Forestry Abs. 2(3):188. 1941.
- Burns, W. Fallows. Indian Farming 1(9):417-419, illus. Sept. 1940. 22 In283
Discusses, briefly, fallowing and erosion.
- Clark, C.T. Erosion control. Recommendations by Joint committee [of Institutes conferring on erosion control.] Citrus News 16(10):154. Oct. 1, 1940. 80 G494
List conferring institutes in Victoria; the scope of the problem; method of attack; organization, duties of proposed board; and departmental co-ordination.
- Croucher, H.H. The care of soils [in Jamaica] Jamaica Agr. Soc. Jour. 44(10):379-381, 383. Oct. 1940. 8 J223
"An address delivered to the Teachers' Conference, 7th August, 1940."
The formation of the soil; the value of the forest and the dangers of its removal; the old methods; new methods of prevention; green manures; control of wash; drains; strip-cropping.
- Deger, Erwin. General consideration of the conservation, fertility, and wealth of the lands of Guatemala. (Orientaciones generales sobre la conservacion, fertilizacion y riqueza de las tierras de Guatemala) Rev. Agr. [Guatemala] 17(10):305-318. Oct. 1940. 8 G934
In Spanish.
- de Szabo, J. Anti-erosion measures for the side lines of dongas. Farming in So. Africa 15(176):420, illus. Nov. 1940. 24 So842
- Hanson, A.P. Land slides. Jamaica Agr. Soc. Jour. 44(11):431. Nov. 1940. 8 J223
Landslides in parts of Jamaica call attention to methods of prevention such as trenching; the use of soil binders like khus-khus grass; and tree planting.
- King, A.W. Plantation and agriculture in Malaya, with notes on the trade of Singapore. Geog. Jour. 93(2):136-148, illus. 1939. 472 G29
An article on agricultural conditions in Malaya. Subjects such as soil conservation, rubber, rice, pineapples, coconuts, oil palms are discussed.

Mackenzie-Taylor, E. Making land reclamation precise and profitable. Indian Farming 1(9):424-426, illus. Sept. 1940. 22 In283

Discusses investigations by the Irrigation Research Institute in Punjab started with the object of obtaining standards which would be useful in assessing the values of areas still to be brought under cultivation and for grading soils already under cultivation with reference to the stages of deterioration.

Manning, J.D. Prevention of soil erosion on tea estates in South India. Madras Agr. Jour. 28(7):268-271. July 1940. 22, 1262

The planting of fruit trees by the system of level rows versus on the contour (La plantacion de frutales por el sistema de filas en curvas a igual nivel o por contorneamiento) La Chacra 11(123):32-33, illus. Jan. 1941. 9 C34

An illustration shows a hillside ploughed on the contour.

The article tells of studies to prevent erosion at agricultural experiment station at Tucuman, Argentina.

Preliminary instruction for soil erosion investigations in plain areas of the USSR. Pedology no. 10, pp. 93-133, illus. 1939. 57.8 P34
In Russian.

Rao, A.S. Soil erosion by surface run-off. Madras Agr. Jour. 28(7): [272]-275, illus. July 1940. 22 1262

"Table I. Run-off results - Havari experimental station, p. 273; Table II. Mechanical analysis of silt collected in 1937-38, p. 273; Table III. Chemical analysis of silt collected in 1937-38, p. 274; Table IV. Moisture contents of differently treated soils, p. 274.

S, K.P. Report of the Soil conservation and afforestation sub-committee of the National planning committee [inaugurated under the auspices of the All-India National Congress.] Indian Forester 66(12):733-739. Dec. 1940. 99.8 In2

Saville, A.H. Notes on the use of the striding level when laying out contour banks. East African Agr. Jour. 5(3):195-197, illus. 1939. 24 Fa74

A description is given of an implement which is considered ideal for use by the natives in charge of the lay-out of contour banks.

Simpson, W.J. Shrubs and trees for land reclamation work in North China. Peking Nat. Hist. Bul. 14(4):301-330, illus. June 1940. 513 P36

In this discussion, the following conditions are recognized: erosion by wind; flood-pockets and silting-holes; flood-plains and ponds; shorelands and dunes; gullies; terrace walls and banks.

Based on six standards, the shrub, *Amorpha fruticosa* is presented as "an especially good variety to meet all conditions".

On page 317 is a chart showing uses for which locust (*Robinia Pseudo-Acacia*) and willow qualify.

On page 327 is indicated what "an imaginary picture of the transformation a maximum use of *Amorpha* should bring to this [China's] erosion-scarred wasteland."

[South Africa. Dept. of agriculture and forestry] South Africa's agriculture in wartime. Annual report for the year ended 31 August 1940, by Dr. P. R. Viljoen. Farming in So. Africa 15(177):443-479. Dec. 1940. 24 So842

Soil and veld conservation, p. 467; Soil erosion control, pp. 467-468; Veld protection, p. 468; Soil fertilization, p. 469; Water conservation, pp. 470-471; Forest conservation, p. 471.

Subba Rao, A., Kuppaswami, S. V. and Abdul Samad, A. Soil and water losses through run-off. Madras Agr. Jour. 27(7):244-246. July 1939. 22 M262

"An investigation was made over a period of two years with a view to determining the amount of water and soil loss through surface run-off in plots specially constructed for the purpose. It was seen that with a rainfall of 9.2 inches received on 11 days, 4 in. of rain were lost as run-off carrying with it 6.6 tons of silt per acre. The amount of total salts, lime and nitrogen washed off per acre were 100.6, 2.45 and 0.11 lb. respectively." Abs. Internat. Inst. Agr. Bib. Trop. Agr. 1939, p. 58.

Water conservation in the Northern Territories. Gold Coast Farmer 8(4): 69. Apr. 1939.

"A report on the work carried out by the Water-Supply Section of the Geological Survey in order to study the problem of water conservation in the Northern Territories of the Gold Coast where there are five and a half months of drought per year. Dams and clayey earth surface reservoirs are being constructed and other improvements made on ponds."

The ponds are lined with 'puddled', i.e. stamped and beaten, clay, the surface protected from erosion by the beating in of gravel.

Wayland, E. J. Desert versus forest in eastern Africa. Geog. Jour. 96(5): 329-341, illus. Nov. 1940. 472 G29

In this discussion, in which the author deals "particularly with natural controls and conflicts" a conclusion is drawn that "we should not spend energy and money in a spectacular attempt to reclaim marginal land already lost to cultivation so much as to consolidate that which we hold."

Soil Freezing

Schofield, R. K. Note on the freezing of the soil. Roy. Met. Soc. [London] Quart. Jour. 66(285):167-170. Apr. 1940. 340.9 R81

"Soil temperatures under different conditions for the period 23 Dec. 1939 to 23 Feb. 1940 are compared. Temperatures below grass are approximately the same as those 4 in. deeper below bare soil, the grass covering reducing the effect of both atmospheric cold and warmth. The protective effect of snow is demonstrated. The mechanism of freezing of soil-contained water and the beneficial effect of frost on tilth is discussed." C.A.S. Abs. Sci. Abs. Sect. A. 43(512):609. Aug. 25, 1940.

Snow makes a good blanket. Amer. Met. Soc. Bul. 21(10):396. Dec. 1940. 3408 AmB2

Opinion of soil conservationists of the U.S. Department of Agriculture, who for four years have studied frost in fields, pastures, and woodlots at the Soil Conservation Service field station at La Crosse, Wis.

Soil Studies

Beaumont, A.B. Distribution of soil series and land types of Massachusetts, by counties. Mass. State Col. Ext. Serv., Soil Auger 2(1):6-9, illus. Jan. 1941. 275.29 1381So

Brown, I.C. and Drosdoff, M. Chemical and physical properties of soils and of their colloids developed from granitic materials in the Mojave Desert. Jour. Agr. Res. 61(5):335-352, illus. Sept. 1, 1940. 1 Ag84J
"Literature cited," pp. 350-352.

"Six soil profiles from the Mojave Desert have been studied. Of these, three are residual soils derived from granite; three are derived from alluvial fan material; five have well-developed claypan horizons, and one has none. They are from a comparatively restricted area near Mojave, Calif., and occur at 2,700 to 3,000 feet above sea level. The mean annual rainfall presumably is approximately 5 inches and the mean annual temperature is about 65° F.

"The results show that the chemical alteration of claypan soils is greater than the moisture supplied by the rainfall of the desert is expected to produce. Neither the chemical nor the mineralogical composition of the colloids is influenced by the formation of a claypan in these desert soils. The colloids are saturated with bases, chiefly calcium, and magnesium. Of the total iron, 25 percent is present as free iron oxide.

"The X-ray data indicate that about 75 percent of the colloids is composed of a mixed-layer mineral of hydrous mica and montmorillonite similar to the coarse weathered mica in the soil. About 25 percent is kaolinite (halloysite)."

Eaton, F.M. and Horton, C.R. Effect of exchange sodium on the moisture equivalent and the wilting coefficient of soils. Jour. Agr. Res. 61(6):401-425, illus. Sept. 15, 1940. 1 Ag84J
"Literature cited," pp. 424-425.

Fadullon, L.D. A study of "single value" properties of soils: maximum water-holding capacity and shrinkage. Philippine Agr. 29(8):713-726, illus. Jan. 1941. 25 P542
"Literature cited," pp. 717-718.
Philippine soils were used in the study.

Haas, A.R.C. The pH of soils at low moisture content. Soil Sci. 51(1):17-39, illus. Jan. 1941. 56.8 So3
"References," p. 39.

Iovenko, N.G. The influence of cultivating of loosely-bushy grasses and of leguminous plants on the hydro-physical properties of chestnut soils. Pochvovedenie (Pédologie) 1939(6):37-47. 1939. 57.8 P34
In Russian, with English summary.

"The greatest influence on the entire depth of the root-inhabited layer of soil is exerted among the perennial legumes by alfalfa which, because of its larger root system making pores of larger size, aids in improving the aeration of the soil, particularly in the deeper lying layers, and increases the water permeability of the soil, but does not decrease the soil's water-holding capacity. A cloddy soil texture is

created as the result of cultivation of the legumes (clods 10-15 mm in diam.) Cultivation of perennial loose-bushy grasses (particularly rye grass) influences greatly the arable and even subarable (down to depths of 30-40 cm.) strata. This makes a medium and fine granular texture, providing the optimal condition throughout the root system. Because this action extends to a relatively small depth, water permeability in this case is lower than in the case of cultivation of legumes. For obtaining an optimal condition throughout the root system, it is best to cultivate jointly, as a mixed crop, lucerne and rye grass, thereby providing a normal condition throughout the root zone." Abs. Biol. Abs. 15(3): 5848. Mar. 1941.

Jones, L.H. Soil temperature as a growth factor. Mass. State Col. Ext. Serv., Soil Auger 2(1):2-3. Jan. 1941. 275.29 W38150
Mentions a few findings at Massachusetts and Missouri agricultural experiment stations.

McCalla, T.M. Physico-chemical behavior of soil bacteria in relation to the soil colloid. Jour. Bact. 40(1):33-43, illus. July 1940. 448.3 J82
"References," pp. 42-43.

Nitzsch, W.v. and Czeratzki, W. The nature and susceptibility to modification of soil colloids and their importance in crumb formation and properties (Die beschaffenheit und beeinflussbarkeit der bodenkolloide und ihre beutung fur krumelbildung und krumeleigenschaften.) Bodenk. u. Pflanzenernahr 18(1/2):1-50, illus. 1940. 384 Z343A
In German.
References, pp. 49-50.
Abs. Chem. Abs. 35(1):250. Jan. 10, 1941.

Obenshain, S.S. Soil types and their significance in agricultural economy. Va. Jour. Sci. 1(8):289-294, illus. Dec. 1940. 470 V81
"Literature cited," p. 294.
Only soils of Virginia are included in the discussion.

Strip Cropping

Gerdel, R.W. and Allen, R.T. Application of the erosion equation to strip crop planning. Agr. Engin. 22(2):59, 61, 64, illus. Feb. 1941. 588 Ag83
"Bibliography," p. 64.
"Presented before the Soil and Water Conservation Division at the fall meeting of the American Society of Agricultural Engineers at Chicago, Ill., December 6, 1940."

Hartwig, L.H. Strip cropping isn't new. Pennsylvania farmers started keeping their soil fertility "at home" several decades ago. Furrow 46:4, 12, illus. Jan.-Feb. 1941. 6 F98
Mentions, in particular, the farm of W.B. Linnert, in Montour county, where the first contour strips were laid out about 1895.

Vegetation

Baldwin, H.I. An inventory of natural vegetation types and the need for their preservation. Science 93(2404):81-82. Jan. 24, 1941. 470 Sci2
Discussion of paper, with above title, by R.L. Piemeisel was published in Science 92(2383):195-197. 1940.

Hasel, A.A. Estimation of vegetation-type areas by linear measurement. Jour. Forestry 39(1):34-40, illus. Jan. 1941. 99.8 F768

"Maps are very useful in providing a picture of the location of vegetation types, but mapping as a method for determining type areas may be inadequate or costly. The measurement of vegetation-type areas by means of line surveys is discussed in the following article, and the method is tested in connection with detailed studies on plots. The results indicate that the method has important advantages over mapping."

Thomson, J.W., jr. Relic prairie areas in central Wisconsin. Ecol. Monog. 10(4):[685]-717, illus. Oct. 1940. 410 Ec72

"Bibliography," p. 717.

"Historical evidence and the presence of relic communities of prairie plants show that the prairie in Wisconsin once had a much wider range than at present. As the prairie receded westward and the forest advanced, small relic communities of prairie plants were left in central Wisconsin. Some of these have been exterminated by cultivation, but portions of others are still present. These relics are still being invaded by the forest and unless some of them are acquired and the forest succession halted artificially, the prairie will disappear from Wisconsin.

"While the relics themselves and the most conservative species are disappearing, some of the prairie plants are spreading from the relic communities onto the sandy soils of central Wisconsin. This spread is all upon areas disturbed by the activities of man, such as roadsides, railroad rights-of-way, and abandoned fields. The succession on such places, as determined by studies of abandoned fields, is from weed flora the first few years, with rapid changes in the succession, to prairie plants, which appear in numbers from 9 to 10 years after abandonment, reach a maximum at about 15 years, and then finally decline. Then the forest represented by jack pine and aspen and later also oak supersedes the prairie plants."

Water Conservation and Facilities

Bowman, H.O. Lone star barony. The King Ranch - the largest one-family operation of its kind in the world. Country Life 78(6):18-23, 56-57, illus. Oct. 1940. 80 C832

"The ranch obtains its water supply from hundreds of artesian wells and windmills scattered over the different divisions. Water for the livestock is pumped either into earthen tanks or into small concrete reservoirs placed conveniently over the expansive ranches. One earthen dam on the Santa Gertrudis Ranch, which was constructed as a part of the soil and water conservation program carried on by the Federal Government, is more than one mile long and catches and preserves rain

water. The lands are well terraced as a part of the conservation program. The headquarters ranch has the advantage of a clay and lime sub-soil of about three and one-half feet, which causes water spreading through terraces and spreader dams to be retained for sometime, providing uniform grazing land."

Fenton, F.C. Water conservation on the Great Plains. Agr. Engin. 22(2): [45]-46, 48, illus. Feb. 1941. 58.8 Ag83

"Presented before the Soil and Water Conservation Division at the fall meeting of the American Society of Agricultural Engineers at Chicago, Ill., December 5, 1940."

Inexpensive dam, dikes. Carter county farmer conserves water to irrigate 40 acres. Mont. Farmer 28(7):6, illus. Dec. 1, 1940. 6 M764

Progress of the water facilities program, under SCS supervision, in Carter county, Montana.

Johnson, Lamont. Utah farms will have more water. West. Farm Life 43(4):[3], 14, illus. Feb. 15, 1941. 6 R153

Outlines "small reservoir" program, comprising 27 proposed reservoirs to serve Utah farm areas; and the Provo river project including Deer creek reservoir, and dam, the third largest earthfill structure of its kind.

Watersheds

Towell, W.E. Forestry and the Meramec watershed. Mo. Conserv. 3(2):3, 8, illus. Dec. 1940. 279.8 M69

Wolfe, Emerson. Crops and dams protect a watershed. Agr. Engin. 22(2): 62-64, illus. Feb. 1941. 58.8 Ag83

"Presented before the Soil and Water Conservation Division at the fall meeting of the American Society of Agricultural Engineers at Chicago, Ill., December 6, 1940."

Wildlife Conservation

Baker, M.F. Age classes of winter cover used by the eastern bobwhite, *Colinus v. virginianus*, in southern Iowa. Iowa State Col. Jour. Sci. 15(1):3-11, illus. Oct. 1940. 470 Io9

"Literature cited," pp. 9-10.

"Woody growth along gullies forms some of the most favorable winter cover for the eastern bobwhite (*Colinus v. virginianus*) in southern Iowa and similar localities. Workers advocating gully plantings for erosion control and as a game management practice are sometimes asked how old a planting must be to attract and hold quail during the winter, or they may be asked at what age timber may be thinned for lumber or fuel, and still leave good bob-white cover...

"In an effort to learn something of the age classes of winter cover used by quail, especially that along gullies, a study of such coverts and their usefulness to quail was made during the winter of 1937-1938 and 1938-1939 in Davis County, Iowa...

"From the data obtained it appeared that any age class of covert

might be adequate for quail in winter if other factors are favorable, but that those coverts above the 24-28 year age class have a definitely greater use for quail. Over the two year period 75 per cent of the vacant coverts occurred in coverts below the average age class. The average number of quail in the young group was 11.2 and the older group 14.8."

Cox, W.T. The fight for the woodland caribou. Amer. Forests 47(2): 55-57, 93-94, illus. Feb. 1941. 99.8 F762

The story of stocking the SCS Beltrami project in Minnesota with woodland caribou.

Dalke, P.D. Development of a statewide system of cover-mapping applicable to Missouri wildlife range. Jour. Wildlife Mgmt. 5(1):103-107, illus. Jan. 1941. 410 J827

Evans, T.R. Aiding wildlife in Houston County. Benefits from soil conservation. Minn. Dept. Conserv., Conserv. Volunteer 1(6):41-43. Mar. 1941. 279.8 C765

"This southern Minnesota county noted an increase in wildlife where soil conservation was practiced."

Franklin, Sydney. Winter foods of bobwhite quail in Georgia. Outdoor Ga. 1(9):[8]-[9], illus. Jan. 1941.

Briefly describes method and findings of study made by the Soil Conservation Service.

Manweiler, J. Minnesota's woodland caribou. New advance in restoration. Minn. Dept. Conserv., Conserv. Volunteer 1(4):34-40, illus. Jan. 1941. 279.8 C765

"Restoration of Minnesota's caribou herd is a new milestone in applied conservation."

Parker, L.A. Soil conservation and wildlife. Our basic resource is the soil. Minn. Dept. Conserv., Conserv. Volunteer 1(5):20-23. Feb. 1941. 279.8 C765

"Soil conservation's stimulus to wildlife is aptly demonstrated in southern Minnesota."

Wind Erosion Control

Ackeret, J. and Chaille, Ch. Model tests of a wind power station [in the wind tunnel of the Aerodynamical Institute at the Federal Technical University in Zurich] Engin. Digest 1(1):52, illus. June 1940. 290.8 En391
Condensed from Schweizerische Bauzeitung.

Before and after co-operation saves "hopeless" blow area in North Valley County [South Dakota] Mont. Farmer 28(6):[3], 24, illus. Nov. 15, 1940. 6 F764

Dale, Tom. It can be done. U.S. Soil Conserv. Serv., Soil Conserv. 6(8-9): 233-235, 237, illus. Feb.-Mar. 1941. 1.6 S03S

The fact that "the dust bowl has been practically chased out of Baca

County, Colorado" is attributed to the efforts of the Western Baca County and the Southeastern Baca County Soil Erosion districts.

Forest fire wind tunnel. Amer. Forests 47(3):139., Mar. 1941. 99.8 F762

"A wind tunnel, like those used by aviation engineers has been built at the California Forest and Range Experiment Station for the study of forest fire conditions.

"No effort is made to attain the wind velocities commonly reached in the wind tunnels used in aviation research, for these hurricane air speeds have little significance in connection with forest fires. Velocities below fifteen miles an hour have been found sufficient for all practical purposes.

"A number of other research problems in forestry, outside the field of fire investigation, have been suggested for further use of the tunnel. These include effect of ground cover on wind erosion, evaporation of moisture from soil surfaces, efficiency of various types of windbreaks, distribution of tree seeds and migration of insect pests."

Entire article quoted.

Parker, J. K. and Whitfield, C. J. Ecological relationships of playa lakes in the Southern Great Plains. Amer. Soc. Agron. Jour. 33(2):125-129, illus. Feb. 1941. 4 Am34P

The playa lake on the Amarillo experiment station is typical of other similar lakes in the region, thought to have been formed by wind erosion.

"Detailed ecological studies were initiated on these lakes; first, because they occupy rather large acreages; second, in most cases the vegetative cover is inadequate to prevent erosion; and third, to determine the possibilities of improving their economic value by increasing the carrying capacity and controlling erosion by the establishment of a permanent grass cover."

As a result of study and observation "it appears possible to increase the economic value through the use of soil conservation practices such as terracing and contour furrowing."

Porterfield, H. G. Studies on the establishment and testing of various plant covers on the Dalhart research substation. U.S. Soil Conserv. Serv. South Great Plains Messenger, Feb. 15, 1941, pp. [18-21], illus. 19606 So32

Tables show: The methods, yields, densities and erosion; Classification of dust storms by degree of soil movement; Erosion results (loss or gain of soil) on native pasture on the Dalhart sub-station.

Gives information as to number of dust storms during the years 1935-1940 on the Dalhart, Texas station; also, the cost of methods tried for the establishment of permanent grass covers.

Ricklefs, R. B. Valuable for hedges, windbreaks, specimens is Chinese elm in Kansas. Experience of landscape firm is told. South. Florist & Nurseryman 50(9):11, 29. Dec. 6, 1940. 80 So86

Soil erosion. Wind causation. Indian Engin. 108(3):79. Sept. 1940. 290.8 In2

Spurr, S.H. The pine that isn't a pine. This is the unique distinction of the contrary *Casuarina equisetifolia* - a tropical immigrant of versatile habits and qualities. *Amer. Forests* 47(3):118-120, 142, illus. Mar. 1941. 99.8 F762

Casuarina equisetifolia, otherwise known as Australian pine is useful as a windbreak.

BOOK AND PAMPHLET NOTES AND ABSTRACTS

American society for testing materials. Proceedings of the forty-second annual meeting held at Atlantic City, N.J., June 26-30, 1939. Volume 39, committee reports, technical reports. 1344pp., illus. Philadelphia, cl940. 290.9 Am34 v.39, 1939.

Partial contents: The shearing resistance of soil, its measurement and practical significance, by W.S. Housel, pp. 1084-1099; The effects of internal hydrostatic pressure on the shearing strength of soils, by L.W. Hamilton, pp. 1100-1121.

Baver, L.D. Soil physics. 370pp., illus. New York, John Wiley & sons, inc., 1940. 56.43 B32

The first textbook on the subject to be available in the United States. It is a discussion of the various phases of soil physics from the point of view of the teacher explaining them to his students. Included are chapters on mechanical composition of soils; physical characteristics of soil colloids; soil consistency; soil structure; soil water; soil air; soil temperature; physical properties of soil and tillage; physical properties of soils in relation to runoff and erosion.

Cheyney, E.G. and Schantz-Hansen, T. This is our land. The story of conservation in the United States, with a foreword by Jay N. Darling. 337pp., illus. Saint Paul, Webb book publishing co., 1940. 279.12 C42
Bibliography, pp. 327-329.

Chapter headings are: Land with a promise; Opening up America; Soil conservation; Our water resources; Our forest wealth; Grass as a resource; Conserving wildlife; Minerals and mineral fuels; The human resource.

Clements, F.E. and Clements, E.S. Climate, climax and conservation. Carnegie Inst. of Wash. Yearbook 1939/1940:169-175. 1940. 500 C21

A discussion of the drought decade and sunspot numbers; a method of compensation for drought; installation of experimental grids; the ecological basis for regrassing; the origin and nature of oak barrens and openings; the biotic significance of disturbance.

Clements, J.B. and Topham, P. Water and the land. 58pp., illus. London, Oxford university press, 1940. 56.7 C59

"In Nyasaland, as in many other parts of Africa, the land is the sole economic asset of the people. The preservation of land fertility is perhaps the most urgent, and it certainly is not the least difficult of the problems confronting governments. It is a problem, which can only be solved by long-range programmes of land usage and by the education of every man and woman who works on the land. Water and the Land

should prove invaluable for all those who are educating Africans (and indeed, rural populations of other continents) to maintain and improve the fertility of the earth. In simple and effective ways it demonstrates how close is the relationship between water and the land; and it is as interesting as it is instructive." -- Foreword.

Elliott, C.N. Conservation of American resources. 672pp., illus. Atlanta, Turner E. Smith co., 1940. 279.12 F15

Written in simple language, the subject matter of this basic text in conservation is presented in twelve units with emphasis placed on renewable resources such as forests, soil, wildlife and water.

There are two special features unique in conservation texts - conservation codes and conservation messages from America's leaders in the conservation movement.

Some mention of highway erosion control is to be found in the unit on landscape, also a new introduction in conservation texts.

Conservation organizations are listed on pp. 607-621; Conservation words (a glossary of terms) pp. 639-646; Readings in conservation, pp. 646-654.

Gabrielson, I.N. Wildlife conservation. 250pp., illus. New York, The Macmillan co., 1941. 412.9 G11

"Little is presented that is new or original. Rather the book attempts to strip down the complexity of contributions in the field of conservation to some of the more essential elements. Three concepts are considered to form the basis of the conservation movement: (1) That soil, water, forest and wildlife conservation are only parts of one inseparable program; (2) that wildlife must have an environment suited to its needs if it is to survive; and (3) that any use that is made of any living resource must be limited to not more than the annual increase if the essential seed stock is to be continually available. These three concepts are the basis of present wildlife and forest conservation programs, and indirectly of all others."

Some chapter titles are: Conservation of renewable resources; soil erosion and wildlife; life of the waters; water conservation; forest conservation; relationship between forestry and wildlife; grassland conservation and its relation to wildlife; some basic factors in wildlife conservation.

Giglioli, G.R. Erosion of agricultural land in the tropics (*L'erosione del terreno agrario nei tropici*) Ist. Agr. Colon. Ital., Relaz. e Monog. Agr. Colon. no. 49. 95pp., illus. Firenze, 1939. 16Is7 no. 49

"Concise and comprehensive study on soil erosion in tropical countries, with special reference to Italian East Africa; formation and types of tropical soils, the problem of the reduced fertility of tropical soils, erosion, examples of erosion occurring after the coming of the European, erosion control, the erosion problem in Italian East Africa, analyses of soils of I.E.A., rainfall in 1937 in some areas of I.E.A. Abs. Internatl. Inst. Agr. Bib. Trop. Agr. 1939, p. 37.

- Harper, C.A. and Henry, L.A. Conservation in Arkansas. 362pp., illus.
Little Rock, Democrat printing and lithographing co., 1939. 279.009 H23
Appendices: Federal agencies concerned with conservation, pp. 335-349;
Agencies of the state of Arkansas concerned with conservation, pp. 350-356.
Glossary, pp. 357-362.
- Hart, C.A. Air photography applied to surveying. 366pp., illus.
New York, Longmans, Green and co., [1940] 325 H25
- Louisiana flood control and water conservation commission. A brief in support of proposed improvements to the Red river system, Arkansas, Oklahoma, Texas and Louisiana; the Ouachita river system, Arkansas and Louisiana; the Calcasieu, Mermentau and Vermillion river systems, Louisiana; the White river, Arkansas and Missouri; and Bayous Rapides, Robert, Boeuf, Cocodrie, Teche and connecting streams, Louisiana. Also a proposal to combine under one head all existing individual projects and studies on these streams in regard to flood control, irrigation, navigation, sanitation and drainage, the integrate plan to be known as the Red river project presented to the president of the Mississippi river commission, Corps of engineers, United States army, at a public hearing held at the Bentley hotel, Alexandria, Louisiana, December 5, 1939. 70pp., processed. [Lafayette] 1939 292 L93
There are chapters on flood control; drainage of lands - soil conservation; irrigation; and economic evaluation, estimated costs.
- Maryland state soil conservation committee. Save your soil. Md. State Soil Conserv. Comm. Bul. 1. 18pp., illus. [Baltimore] July 1940. 56.9 M36 no. 1
- Maryland state soil conservation committee. Soil and water conservation in Maryland, Report October 1, 1940. [8]pp. [n.p.] 1940. 56.7 M36
- Milner, H.B. Sedimentary petrography, with special reference to petrographic methods of correlation of strata, petroleum technology and other economic applications of geology. Ed. 3., 666pp., illus. London, Thomas Murby & co., 1940. 398 M63 Ed. 3
- North American wildlife conference. Transactions of the fifth conference, March 18, 19, 20, 1940... Washington, D.C. 443pp., illus. Washington, D.C., American wildlife institute, 1941. 412.9 N814, 5th, 1940
Partial contents: Environmental improvement for valuable non-game animals, by W.R. Van Dersal, pp. 200-202; Wildlife management on land ditched for agriculture, by W.S. Bourn, pp. 296-300; The effect of land-use adjustments on wildlife populations in the Ohio valley region, by C.A. Dambach, pp. 331-337; Wildlife management on coal stripped land, by L.E. Yeager, pp. 348-353; Why more wildlife is not produced on agricultural land, by J.P. Miller and B.P. Powell, pp. 359-363.
- Northwest regional council. Pacific northwest resources in outline. 56pp., processed. Portland, May 1940. 280.7 N8199Pa
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well as source units". Brief bibliographies are attached to each unit. Subjects covered include land, forests and water resources.

Pennsylvania state college. School of agriculture and experiment station. Dept. of agricultural economics. Some costs and results of a soil and moisture conservation program in western Pennsylvania [by] David H. Walter. 38pp., illus., processed. State College, Sept. 1940. 281.073 P385o
In cooperation with United States Department of agriculture, Soil conservation service and Bureau of agricultural economics.
A discussion of the implications of the agricultural conservation program, the soil conservation program; and the attitude of farmers toward the program.

Steyermark, J.A. Studies of the vegetation of Missouri - I. Natural plant associations and succession in the Ozarks of Missouri. Field Mus. Nat. Hist., Chicago, Bot. Ser. 9(5):349-475, illus. Dec. 31, 1940. 500 C433B v.9, no.5
Publication no. 485.
Ecological variations induced by burning, logging, clearing and other unnatural causes, pp. 408-421.

Tanganyika territory. Dept. of veterinary science and animal husbandry. Annual report 1938. Part II - Research. 126pp., illus. Dar Es Salaam, Printed by the government printer, 1939. 41.9 T15 1938, pt. 2
Run-off and soil erosion tests in semi-arid Tanganyika territory. Third report (by R.R. Staples) pp. 109-119.

Troup, R.S. Colonial forest administration. 476pp., illus. London, Oxford university press, 1940. 99.6 T75
This book contains many references to the influence of forests on erosion.
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Chapter 6, cites measures of protection and conservation taken in Cyprus, Palestine, Trans-Jordan, Ceylon, Malaya, Gold Coast, Nigeria, Sierra Leone, Kenya Colony, Northern Rhodesia, Nyasaland, Tanganyika Territory, Uganda, Mauritius, Seychelles, Fiji, Jamaica, Leeward Islands, Trinidad and Tobago and Windward Islands.
Appendix I. Forests and water-supply: evidence and conclusions.
Appendix III. Legislation and administrative action taken by different countries in regard to protective forestry. Appendix V. Colonial laws dealing with forestry.

U.S. National research council. Division of geology and geography. Committee on sedimentation. Report, April 27, 1940 (appendix D of annual report of the division with exhibits A-G) 121pp., processed. Washington, D.C. [1940] 400 N21 1939-40
Contents: A proposed compilation of size data of sediments, by W.C. Krumbein, pp. 6-21 (bibliography included); Mineralogy of sedimentary rocks, 1937-1939, by F.J. Pettijohn, pp. 22-69; Progress in hydraulics as related to sedimentation (1939-40) by L.G. Straub, pp. 70-85 (bibliography

included); Bibliography on pediments and related sediments, by C.B. Hunt, pp.86-88; Sedimentation studies by the Soil conservation service, 1939-1940, by C.B. Brown, pp.89-96; Curves for determining probable errors in heavy mineral studies, by Gordon Rittenhouse, pp.97-101; The importance of heavy mineral analysis for regional sedimentary petrology, by D.J. Douglas, pp.102-121.

Washington state planning council. Fourth biennial report from October 1, 1938 to September 30, 1940. 69pp., illus. Olympia, 1941. 280.7 W27 1938-40

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Western farm economics association. Proceedings of the thirteenth annual meeting, July 10, 11 and 12, 1940, State college of Washington, Pullman, Washington and University of Idaho, Moscow, Idaho. 197pp., processed. [n.p., n.d.] 280.83 W52 13th, 1940

The following paper was given by a member of SCS: County land-use planning as seen by an action agency, by G.B. Swier, pp.141-142.

White, Lazarus and Prentis, E.A. Cofferdams. 273pp., illus. New York, Columbia university press, 1940. 290 W582
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Wisconsin state planning board. The Milwaukee river basin. A study of rainfall and runoff, floods and the possibilities of flood control. Wis. State Planning Bd. Bul. 10. 69pp., illus., processed. [Madison, 1940] 280.7 W753 no.10

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Illinois

Smith, G.D. and Smith, L.H. Dewitt county soil. Ill. Agr. Expt. Sta. Soil Rpt. 67. 28pp., illus. Urbana, June 1940. 100 IL6So no.67

Kansas

Smith, L.F. Farm woodlot management in Kansas. Kans. Agr. Expt. Sta. Cir. 201. 28pp., illus. Manhattan, Oct. 1940. 100 K13S no.201

Maine

Niederfrank, E. J. and Draper, C. R. Use of recreation sites developed on federal submarginal land purchase areas in Maine. Maine Agr. Col. Ext. Bul. 280. 19pp., illus. [Orono] July 1940. 275.29 M281B no. 280

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Massachusetts agricultural experiment station. Annual report for the year ending November 30, 1939. Mass. Agr. Expt. Sta. Bul. 369. 104pp., illus. Amherst, Feb. 1940. 100 F38H no. 369

Projects of interest are: Relationship of natural vegetation to physico-chemical properties of soils of Massachusetts, pp. 11-12; A survey of erosion problems arising from changes in land use, p. 12; An investigation of the source and nature of erosional damage on the alluvial soils of Massachusetts, pp. 12-13; A study of the physical and chemical properties of wind-blown soils, p. 13; The relation between the rate of wind erosion and the principal factors affecting it, pp. 13-14; Land-use problems in Massachusetts in relation to a balanced program of land utilization, pp. 44-45.

Michigan

Hill, R. G. and Bradt, G. W. Producing wildlife by good farm land use. Mich. State Col. Ext. Bul. 218. 23pp., illus. East Lansing, Dec. 1940. 275.29 M58B no. 218

Miller, C. E. Soils of Michigan. Mich. Agr. Expt. Sta. Cir. Bul. 176. 20pp., illus. East Lansing, Dec. 1940. 100 M58S Cir. Bul. 176

Wolfanger, L. A. Resources - pioneers - conservation - citizens. Mich. Agr. Col. Ext. Bul. 219. 36pp., illus. East Lansing, Dec. 1940. 275.29 M58B no. 219
"The sketch of John Pioneer and John Citizen which this publication describes is a challenging account of what the use of some of Michigan's resources have been and can be, provided we use our intelligence. It draws aside the curtain of time, first to look back for a moment upon the pioneers of the 19th century and the stepping stones they laid; then ahead, to catch a glimpse of the new vista which the forward-looking citizens of the 20th century are laboring to create." - Forward.

Minnesota

Anderson, Parker. Market for forest products grown on Minnesota farms. Minn. Agr. Ext. Pam. 69. 12pp. St. Paul, Dec. 1940. 275.29 M66P no. 69

Park, J. K. Water supplies for irrigation in Minnesota. Minn. Univ. Agr. Ext. Div. Agr. Engin. News Letter 99. 1p., illus. University Farm, St. Paul, June 15, 1940. 275.29 M66Ag no. 99

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Helm, C. A. Management of Korean lespedeza. Mo. Agr. Expt. Sta. Cir. 210. 8pp., illus. Columbia, Dec. 1940. 100 M693 no. 210

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The conference was sponsored by the University of Missouri at Columbia, October 10-12, 1940.

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Nebraska

Nebraska agricultural experiment station. Fifty-third annual report. 68pp. Lincoln, 1940. 100 N27 53d, 1939

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New Hampshire

New Hampshire agricultural experiment station. Agricultural research in New Hampshire. Annual report for the year 1939. N.H. Agr. Expt. Sta. Bul. 319. 46pp. Durham, June 1940. 100 N45 no. 319

The determination of run-off and erosion from New Hampshire upland soils, pp. 22-23.

New York

New York (Cornell) agricultural experiment station. Report for the year 1939-40. 205pp. [Ithaca, 1940] 100 N48C 53d, 1940

Items of interest are the following: State and county land-use policies for the land and the people, pp. 9-11; Land use, pp. 35-36; Drainage, p. 38; Erosion control, pp. 38-39; Forestry (woodlot management, Tioga woodland owners' cooperative association) pp. 55-57; Soil and conservation surveys, p. 95; Life history behavior, economic status, relation to land use, and management, of birds of New York, pp. 137-188.

New York (state) agricultural experiment station. Fifty-ninth annual report for the fiscal year ended June 30, 1940. 58pp. Geneva [1940] 100 N48 59th, 1940

Soil conservation, p. 31.

Ohio

Hall, J.A. Woodland management. Ohio Agr. Col. Expt. Bul. 213. 48pp., illus. Columbus, Oct. 1940. 275.29 Oh32 Bul. 213

Oklahoma

Elwell, H.M. Preliminary report of land reclamation and pasture investigations on abandoned and scrubby oak areas in central Oklahoma. Okla. Agr. Expt. Sta. Mimeogr. Cir. 60. 6pp., illus., processed. Guthrie, May 1940. 100 Ok4M no. 60
"Literature cited," p. 6.

Oregon

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Points discussed include tax delinquency and size of farms and land types; and tax delinquency and land use in Umatilla and Morrow counties.

Texas

Lay, D.W. Bob-white populations as affected by woodland management in eastern Texas. Tex. Agr. Expt. Sta. Bul. 592. 37pp., illus. College Station, Aug. 1940. 100 T31S no. 592
Bibliography, p. 37.

Utah

Utah agricultural experiment station. Research aids Utah agriculture. Biennial report... 1938-1940. Utah Agr. Expt. Sta. Bul. 294. 118pp., illus. Logan, Dec. 1940. 100 Utl no. 294
Irrigation surveys, p. 76; Water-application efficiencies in irrigation and their relation to irrigation methods, pp. 76-77; Snow surveys, pp. 77-78; The application of hydromechanics to the design of structures for controlling groundwater, pp. 78-79; Range studies, pp. 82-85.

Wisconsin

Carter, R.M. Woodland improvement. A handbook for farmers and others interested in trees. Wis. Agr. Col. Ext. Cir. 305. 24pp., illus. Madison, June 1940. 275.29 W75C no. 305

Clark, Noble. Soil erosion. Farmers and government together can whip it. Wis. Agr. Col. Ext. Cir. 311. 24pp., illus. Madison, June 1940. 275.29 W75C no. 311

Orton, C.R. Whistle to the farm. W. Va. Agr. Expt. Sta. Bul. 298. 40pp., illus. Morgantown, Dec. 1940. 100 W52 no. 298
Report of the director for the biennium 1938 to 1940.
Our soils and our pastures, p. 4; What makes soil slip, pp. 5-6; How rebuild eroded soils, pp. 6-7; Economic development under the soil conservation program, pp. 31-32.

Wisconsin agricultural experiment station. Grant county 1939. Third annual report of the Fennimore farm account route Fennimore, Wisconsin. 2 parts, processed. [Madison, 1940?] 100 W75V Grant co. pts. 1-2
In cooperation with Soil conservation service and Bureau of

agricultural economics, United States Department of agriculture.

Part I. Small farms, by H.O. Anderson, D.M. Keyes and P.E. McNall. Part II. Large farms, by P.E. McNall, H.O. Anderson, and D.M. Keyes.

"The purpose of the project is to obtain from farm operators data and information to determine the effect of the soil conservation program on (1) the production of crops and livestock (2) the adjustment needed in management as a result of changes in land use (3) changes in efficiency of various farm enterprises and (4) to discover ways and means of balancing crop and livestock enterprises for highest income consistent with proper land use."

Wisconsin agricultural experiment station. What's new in farm science. Annual report [57th, for year ended June 30, 1940] Part I. Wis. Agr. Expt. Sta. Bul. 450. 80pp., illus. Madison, Dec. 1940. 100 W75 no. 450

High income possible - not assured - with soil conservation, pp. 49-50 (Based on conclusions evident from an analysis of records kept by farmers in soil conservation areas. H.O. Anderson, D.M. Keyes and P.E. McNall made the study)

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Agriculture Department

Canfield, R.H. Semideferred grazing as a restorative measure for black grama ranges. U.S. Forest and Range Expt. Sta., Southwest Res. Note 80. rev. ed., App., illus. processed. Tucson, Dec. 1940. 19 F7621R no. 80
This was originally issued Dec. 1939.

Eisenhower, M.S. Federal responsibilities in total conservation. Discussion by...land use coordinator, U.S. Department of agriculture, in a symposium on conservation, at the bicentennial celebration of the University of Pennsylvania, Philadelphia, September 18, 1940. 12pp., processed. [Washington, D.C., 1940] 1.915 A2Ei8

Hormay, A.L. Palatabilities of foothill range plants for cattle. U.S. Forest and Range Expt. Sta., Calif. Res. Note 25. App., processed. Berkeley, Sept. 15, 1940. 1.9 F7626R no. 25

The palatability figures presented herein "represent preliminary information on a class of vegetation in California which has received comparatively little study in the past but is now claiming the attention of many experimental and land planning agencies. This vegetation is commonly referred to as the 'annual type' because the herbaceous ground cover is dominated to the extent of 95 to 99 percent by annual plants, both introduced and native."

Kollmorgen, W.M. The German-Swiss in Franklin county, Tennessee. A study of the significance of cultural considerations in farming enterprises. U.S. Bur. Agr. Econ. RE-7. 113pp., tables. Washington, D.C. June 1940. 1.9 Fc76Le no. 7

"References," pp. 109-113.

Significant because of references to erosion, land depletion and methods of rehabilitating the land.

McKet, Roland. Lespedeza culture and utilization. U.S. Dept. Agr. Farmers' Bul. 1852. 14pp., illus. Washington, U.S. Govt. print. off., Nov. 1940. 1 Ag84F no. 1852

"This bulletin supersedes Leaflet 100, Lespedeza and Farmers' Bulletin 1724, Farm practices with lespedeza.

Moore, A.W. Wild animal damage to seed and seedlings on cut-over Douglas fir lands of Oregon and Washington. U.S. Dept. Agr. Tech. Bul. 706. 28pp., illus. Washington, U.S. Govt. print. off., June 1940. 1 Ag84Te no. 706

Bibliography.

"The habits and abundance of the principal seed-eaters and the influence of slash burning upon their populations are treated in some detail. Injury to trees and indices of damage also are discussed. Part of author's summary: 'Seed-eating mammals, active at all times of the year, find in forest-tree seeds a favorite food. White-footed mice are the most important consumers, as they occur over the entire region. The shrew and related forms, although classed as insect eaters, also take heavy toll of seeds, owing to their great abundance in the coastal strip. Squirrels, chipmunks, and other mammals are of minor importance in total seed consumption. Reproduction from such seeds as escape and germinate furnishes food for browsing animals. The brush and snowshoe rabbits, common in the region, do the greatest amount of cropping. The mountain beaver plays a minor role, as apparently do big-game animals also. Artificial reforestation appears to suffer more from animal attack than does natural regeneration. Population counts of animals give unstable readings as to measurements of damage, because of the ever-present factor of variables.' Abs. [U.S. Dept. Int. Fish and Wildlife Serv.] Wildlife Rev. no. 29, pp. 26-27, Jan. 1941.

U.S. Agricultural adjustment administration. Div. of information. More abundant wildlife through the AAA program. U.S. Agr. Adjustment Admin. Gen. Inform. Ser. G-100. 6pp., illus. Washington, U.S. Govt. print. off., June 1940. 1.4 Ad43e no. G-100

Notes on the interest and value of wildlife to farmers and the relation of soil conservation practices to wildlife.

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The district is located in southeastern South Dakota.

U.S. Bureau of agricultural economics. Land use planning and the agronomist, by William F. Watkins. Paper American society of agronomy, Chicago, Illinois, December 4, 1940. 9pp., processed. [Washington, D.C., 1941?] 1.941 L3L22

U.S. Bureau of agricultural economics. Railroad grant lands of Nevada, by Cruz Venstrom. 19pp. Washington, D.C., Dec. 1940. 1.941 L2R13

"Description of the railroad grant lands of Nevada centers here on a discussion of the past and present relationships of the lands to the various taxing bodies affected, and on a discussion of the major valuation elements in the lands."

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Contains many facts of interest to soil conservationists relative to land use planning in various counties, including Caswell county, N.C., Ward county, N. Dak. and Elder county, Utah; farm forestry; conservation of physical resources in Billings county, N. Dak.; flood control.
The list of bulletins published during the year includes those on county planning, p.98; land economics and conservation, pp.99-100; and water facility area plans, pp.99-100.
- U.S. Bureau of plant industry. Division of irrigation agriculture. The Pecos river joint investigation 1939-1940. Soil salinity investigation, by Carl S. Scofield, principal agriculturist in charge. 191pp., illus., processed. Washington, D.C., Jan. 1941. 1.965 I2P33
- U.S. Dept. of agriculture. Report of the secretary, 1940. 184pp. Washington, U.S. Govt. print. off., 1940. 1 Ag84A 1940
Land in flood control, pp.72-73; People and natural resources, pp.74-75; County planning, pp.80-83; Land problems in Montana, pp.87-89; Ground water resources, pp.93-94; Conserving the soil, pp.94-100; Outline for a rural conservation works program, pp.108-109; Soils and plant nutrition.
- U.S. Dept. Agriculture. Inter-bureau coordinating committee on land use planning. Suggestions for a unified state agricultural program to meet the impacts of war. 18pp., processed. Washington, D.C., Jan. 8, 1941. 1.90 C2In8L
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PERSONNEL AND TRAINING

Driver, R.S. The validity and reliability of ratings. Personnel 17(3): 185-191. Feb. 1941. 280.8 P43

"Despite recent refinements in the techniques of merit rating, no wholly objective method of appraising employees has yet been devised. Nevertheless, a number of methods of validating ratings have been used more or less successfully by investigators in this field. Mr. Driver considers here the value and limitations of methods of validation in current use, and discusses also the problem of determining the consistency of ratings. This paper represents part of the author's contribution to a report on rating issued recently by the Industrial Relations Association of Philadelphia."

Gaus, J.M. and Wolcott, L.O. Public administration and the United States Department of agriculture. 534pp. Chicago, Published for the Committee on public administration of the Social science research council by Public administration service, 1940. 281.12 G23

This discussion of problems of administration in the Department of Agriculture is divided into three parts. Part I, The evolution of the Department of agriculture is in the nature of an introduction; Part II, Substantive activities of the Department of agriculture includes lengthy discussions of production, land use, marketing and distribution, rural life, agricultural credit facilities; Part III is titled The resulting Department of agriculture.

There are several appendices: A, Budgetary administration in the Department of agriculture, by Verne B. Lewis; B, Documents of departmental organization and on relations with land grant colleges and with state extension services (included are Joint statements by the Association of land grant colleges and universities and the Department of agriculture on building agricultural land use programs, or the Mt. Weather agreement; Soil conservation service and field action; Establishment of the agricultural program board; Office of land use coordination); C, Documents on the general staff and auxiliary services (included is Establishment of the drought committee).

Grundstein, N.D. A review of statutory appeals provisions. Personnel Admin. 3(5):7-11. Jan. 1941. 249.38 P43

"Laws providing for the procedures to be followed in appeals from disciplinary action in civil service systems have been enacted in a number of jurisdictions. Still more will be enacted in the future. To

those who will draft new legislation and to those who will carry out its provisions, Mr. Grundstein's study will be helpful. He has discussed current practices and their legal background in considerable detail.

"The author is now Junior Administrative Technician in the Food and Drug Administration, Federal Security Agency."

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Contents. Part I. Foundations of public management; Part II. Essentials of public management; Part III. Recruitment for the public service; Part IV. Conditions of public employment.
- Pond, Millicent. Tests for the selection of office employees. Personnel 17(3):199-208. Feb. 1941. 280.8 P43
"Significant progress has been made of late years in the use of clerical ability and aptitude tests. Among the pioneers in this field is the Scovill Manufacturing Company, which has achieved unusual success in weeding out unpromising applicants through a carefully devised test of general intelligence. In this paper which was presented at the last AMA Office Management Conference, Dr. Pond describes this test and discusses her experience with various other tests of clerical proficiency. An objective scrutiny is made of aptitude and personality testing."
- Stanley, D.T. The clerk's knowledge of his agency. Personnel Admin. 3(4):[1]-4. Dec. 1940. 249.38 P43
"Little thought has been given in many Federal agencies to the possibility of giving to employes in clerical positions a knowledge of the purposes, functions, and organization of the department or establishment in which they work. Attention has been given to this subject in the Farm Credit Administration, and Mr. Stanley, who is on the training staff of the FCA, presents some considerations having a bearing on this type of training."
"This article is a statement from the Portland, Oregon, office of the Farm Security Administration, discussing the way in which training of this type is carried on in that office."

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